NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2
PRIMARY FOUR
SCIENCE

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	**/ 80**

Name : _____ _____( )

Class : Primary 4 / ____

Date : 23 August 2007

Duration : 1 hr 30 min

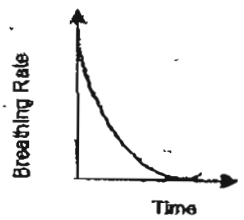
Parent's Signature : _____

Section A: (20 x 2marks = 40marks)

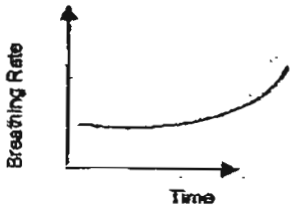
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

Which one of the following graphs shows the changes in the breathing rate of Sally when she ran up the stairs?

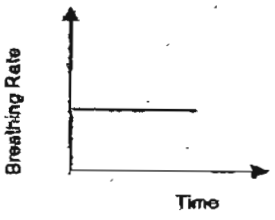
(1)



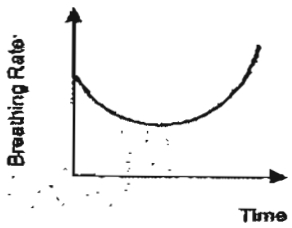
(2)



(3)



(4)



1

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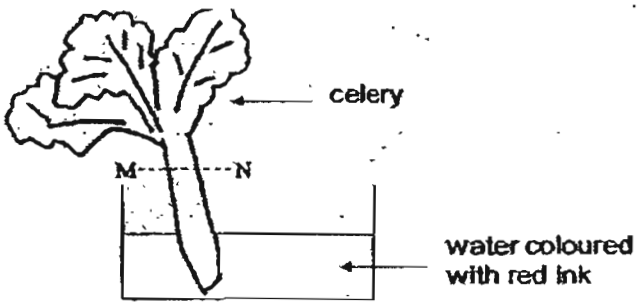
2. Study the table below. It shows the properties of 3 objects, X, Y and Z.

Property	Object X	Object Y	Object Z
Can be compressed	No	No	No
Has a fixed shape	Yes	Yes	No
Can float on water	Yes	No	Yes

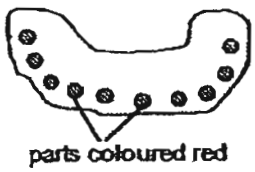
Which of the following can be X, Y and Z?

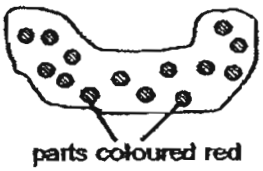
	X	Y	Z
(1)	Leaf	Stone	Paper bag
(2)	Plastic cup	Coin	Air
(3)	Ice	Marble	Oil
(4)	Plastic bag	Styrofoam plate	Oil

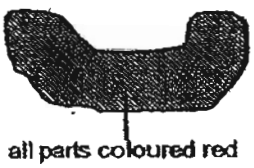
3. A stalk of celery was placed in water, which was coloured with red ink. The next day, the stalk was removed and cut across at MN as shown in the diagram below.



Which one of the following shows the cross-section that would be observed at MN?

(1)


(2)


(3)


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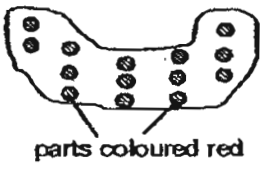

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4. Which of the following are functions of roots?

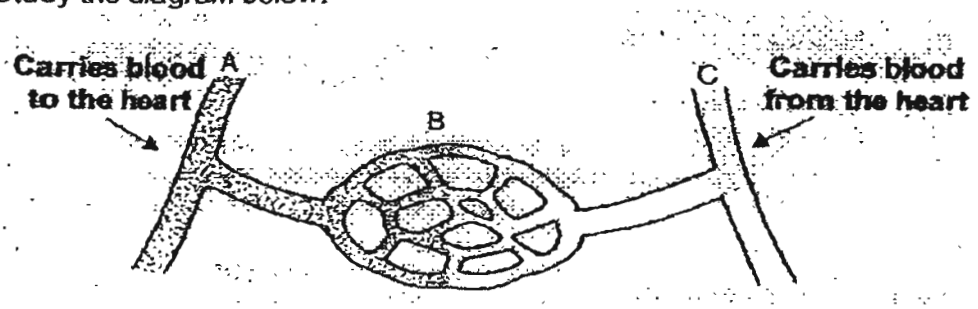
A: Roots make food for the plant.
B: Roots hold the plant firmly to the soil.
C: Roots take in carbon dioxide from the water
D: Roots take in water and nutrients from the soil.

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

5. The hairs in the nose trap _____ from the air in the respiratory passage.

(1) dust
(2) waste gases
(3) impure blood
(4) unwanted food

6. Study the diagram below.



What types of blood vessels are A, B and C?

	Arteries	Veins	Capillaries
(1)	A	B	C
(2)	B	C	A
(3)	C	A	B
(4)	C	B	A

7. Which one of the following is **not** a source of energy?

(1) Food
(2) Wood
(3) Shadow
(4) Fossil fuel

8. Diagram A below shows two identical balloons filled with the same amount of air. The balloons are tied with a string to a balance. One of the balloons in Diagram A is then removed from the balance. Some air is released from the balloon and placed back onto the balance at the same position, as shown in Diagram B.

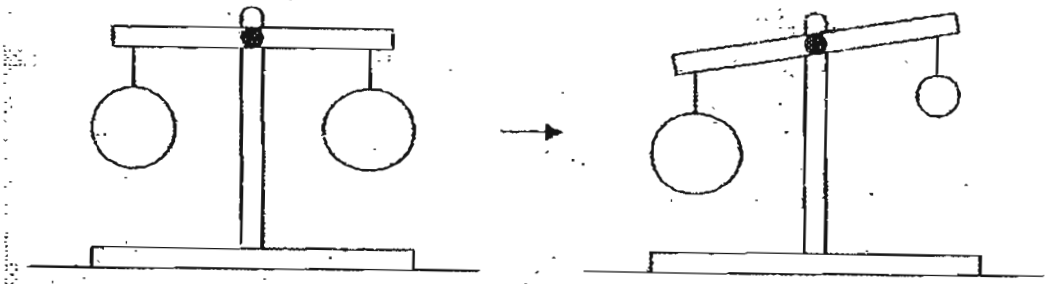
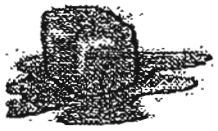


Diagram A Diagram B

What can you conclude from the experiment?

(1) Air has mass.
(2) Air can be compressed.
(3) The balloons have different mass.
(4) The air in the balloons has no mass.

9. The diagram below shows a cube of ice melting.

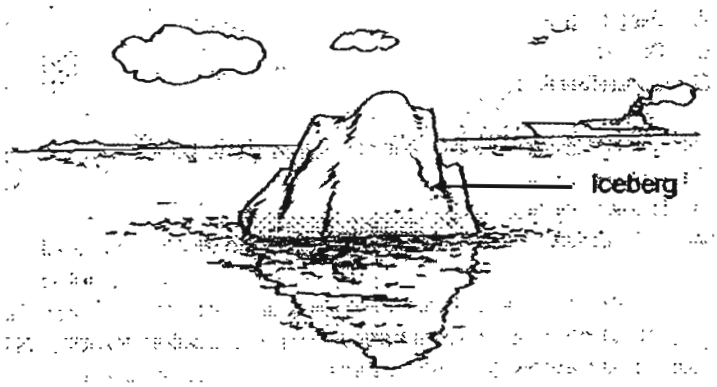


As the ice melts, there is a change in _____.

A : state
B : shape
C : volume

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

10. The diagram below shows an iceberg out at sea.



Which of the following states of water can be **seen** in the picture above?

A : Solid
B : Liquid
C : Gas

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

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11. Which of the following are possible effects of water pollution?

A: The number of marine animals increases.
B: Marine animals consume toxic waste and die.
C: Marine animals get entangled in the litter thrown in water and die.
D: Aquatic plants submerged in the water do not get enough sunlight.

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

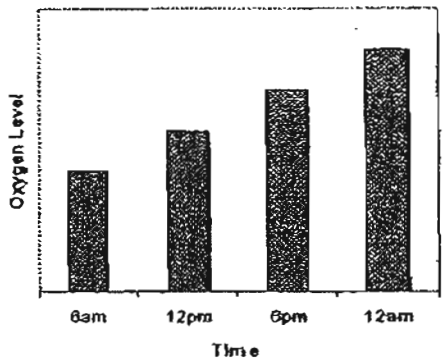
12. The table below shows the differences between inhaled air and exhaled air.

Which one of the following correctly shows the difference between inhaled air and exhaled air?

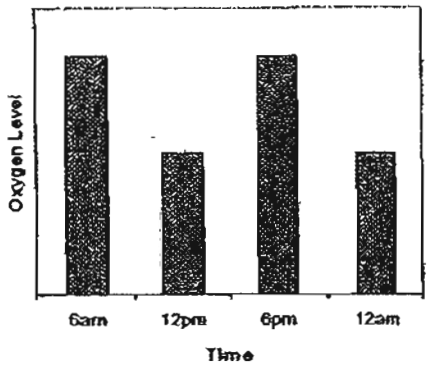
	Inhaled air	**Exhaled air**
(1)	Contains more oxygen	Contains less oxygen
(2)	Contains more nitrogen	Contains less nitrogen
(3)	Contains more water vapour	Contains less water vapour
(4)	Contains more carbon dioxide	Contains less carbon dioxde

13. Which one of the following graphs best shows the oxygen level in the air at a forest over a period of time?

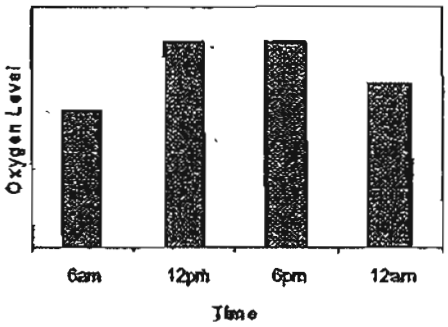
(1)



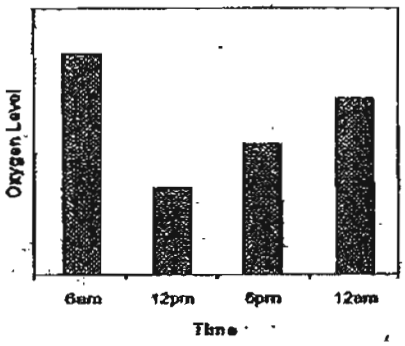
(2)



(3)



(4)



14. Jenny placed a white carnation in a beaker of water. She accidentally spilled a few drops of black ink into the beaker of water.
The next day, she was surprised to observe that some parts of the petals of the carnation flower had turned from white to black. What does her observation show?

(1) Water from the flower is lost to the surroundings.
(2) The stem carries water from the flower to the roots.
(3) The stem carries food from the roots to the flower.
(4) The stem carries water from the roots to the flower.

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15. Which one of the following is <u>not</u> true of the plant transport system?

(1) The plant transport system is made up of two networks of tubes.
(2) One set of the tubes carries food from the leaves to the rest of the plant.
(3) One set of tubes carries water and minerals from the roots to the rest of the plant.
(4) The plant transport system transports oxygen and carbon dioxide throughout the plant.

16. What can we say about our heart?

A: It is a muscular organ
B: It is protected by the ribcage.
C: It is found to the right of our chest.
D: It pumps blood through blood vessels to all parts of the body.

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

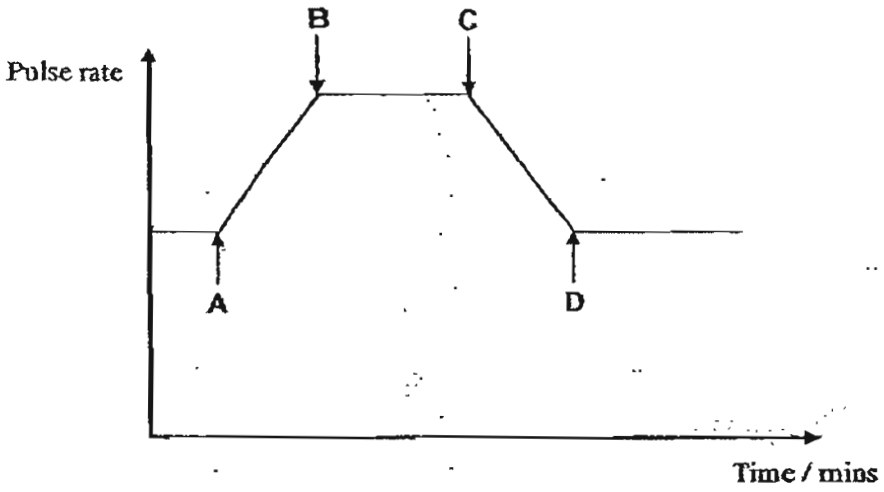
17. The heart pumps blood to all parts of our body by _____.

(1) closing the valves in the veins
(2) opening the valves in the veins
(3) moving up and down the ribcage
(4) contracting and relaxing its muscles

18. Which of the following structures in plants is similar to the blood vessels in the human circulatory system?

(1) Stem
(2) Leaves and stomata
(3) Roots and root hairs
(4) Food-carrying tubes and water-carrying tubes

19. The graph below shows the pulse rate of a boy over a period of time.



Which part of the graph shows that the boy has <u>just stopped</u> playing basketball?

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

20. Which of the following statements explain why the sun is an important source of energy for living things on earth?

A : Energy from the sun keeps all living things warm.
B : Without energy from the sun, green plants cannot make food.
C : Energy from the sun enables animals to see things around them.

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

NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2
PRIMARY FOUR
SCIENCE

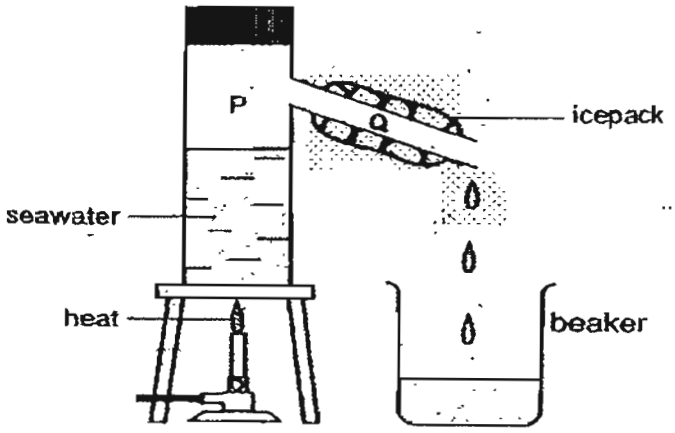
MARKS
/40

Name : _____ _____ _____( )

Class : Primary 4 / _____

Section B: (40marks)
Write your answers to question 21 to 36.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

21. Some seawater is being heated in the following set-up.



(a) Name the processes that are taking place at P and Q. [1]

P: _____

Q: _____

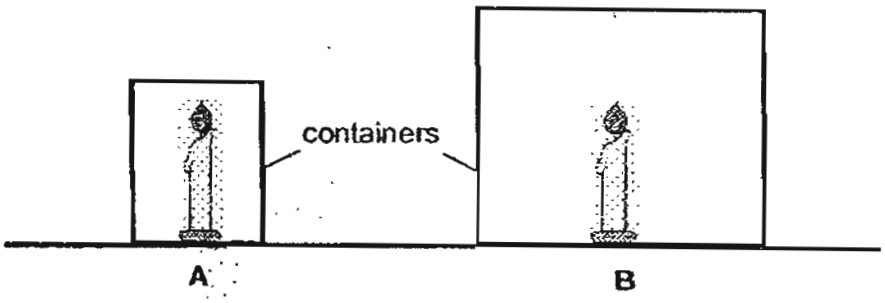
(b) What is the function of the ice pack? [1]

_____

_____

Score	/2

22. Ivan carried out an experiment to find out if the size of the container affects the burning time of the candle.
He chose 2 similar candles and placed them in 2 different containers as shown in the diagram below.



The time taken for each flame to go off was recorded in the table below.

Candle	Burning Time (in seconds)
A	14
B	26

a) Tick (√) the variables that were kept the same in order to carry out a fair test. [1]

Variables	Kept the same
Size of container	
Size of candle	
Type of candle	

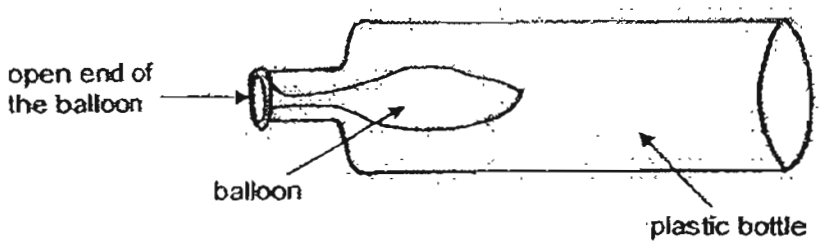
b) What could Ivan conclude from the results obtained? [2]

_____

_____

Score	3

23. Look at the diagram below.
A balloon is pushed into a plastic bottle and the opened end is stretched over the mouth of the bottle.



Joanne tried to blow to inflate the balloon in this set up but she failed.

(a) Suggest a method for Joanne to blow to inflate the balloon without taking it out of the bottle. [1]

_____

_____

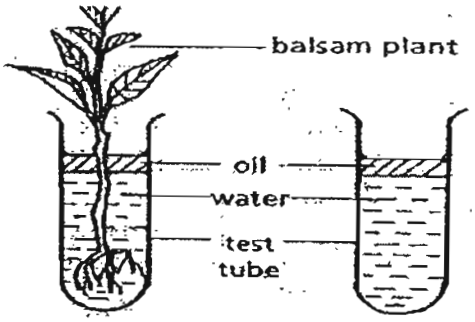
(b) What does the experiment tell us about the property of air? [1]

_____

_____

Score	/2

24. Peter sets up the experiment as shown below.



Container P Container Q

The roots of the balsam plant are washed and then placed in Container P. A similar Container Q, is set up without the plant. The amount of water is kept the same for both containers. A layer of oil covers the surface of the water in each container.

(a) After a few days, what will happen to the water level in the two containers? [2]

_____

_____

(b) Why does Peter need to put oil into the containers? [1]

_____

_____

(c) What does the experiment show? [1]

_____

_____

Score	4

25. Fill in the blood vessels that carry out the activities described in the table below. [3]

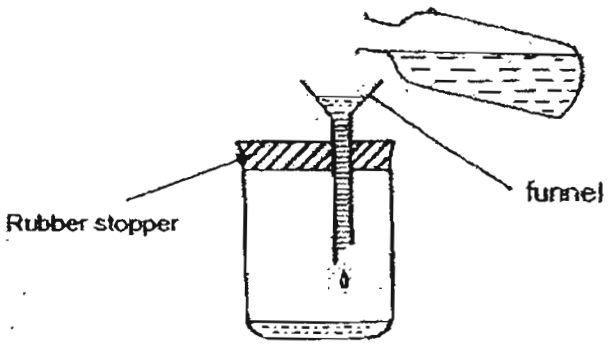
Blood vessels	Activities
	Nutrients, digested food and oxygen pass through the very thin wall of this blood vessel.
	Blood with less oxygen is carried back to the heart through this blood vessel.
	Blood rich in oxygen is transported away from the heart to other parts of the body.

26. Put a "T" for statements that are **true** and an "F" for statements that are **false**. [2]

(a)	Both the plant and human transport systems perform the function of transporting materials.	
(b)	Both the plant and human transport systems do not use any organ to pump materials through the system.	
(c)	The plant transport system has 2 sets of tubes to transport materials.	
(d)	The plant transport system transports oxygen, digested food, carbon dioxide and water.	

Score	5

27. In the diagram below, water drips into the beaker at a very slow rate.

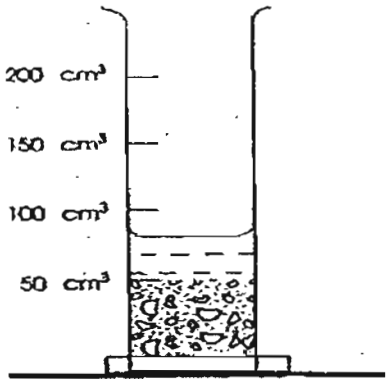


(a) Give a reason why the water drips into the ~~flask~~ beaker so slowly. [1]

(b) If the stopper is loosened, what will happen to the rate of the drip? [1]

Score	2

28. A measuring cylinder was packed with pebbles to the 50 cm^3 mark. 50 cm^3 of water was added but the water level did not reach the 100 cm^3 mark.



Explain why the water level did not reach the 100 cm^3 mark. [2]

Score	2

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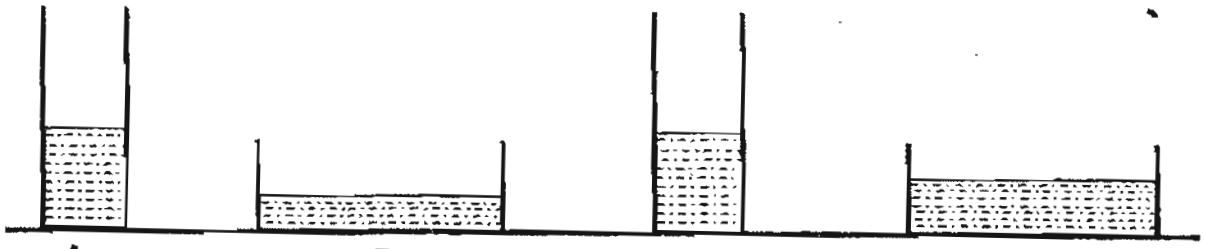
29. Study the set-ups below carefully.



A	B	C	D
Volume of water = 250ml Temperature = 25 °C	Volume of water = 250ml Temperature = 25 °C	Volume of water = 250ml Temperature = 35 °C	Volume of water = 350ml Temperature = 35 °C

(a) Which two set-ups should be used to find out if temperature affects the rate of evaporation of water? [1]

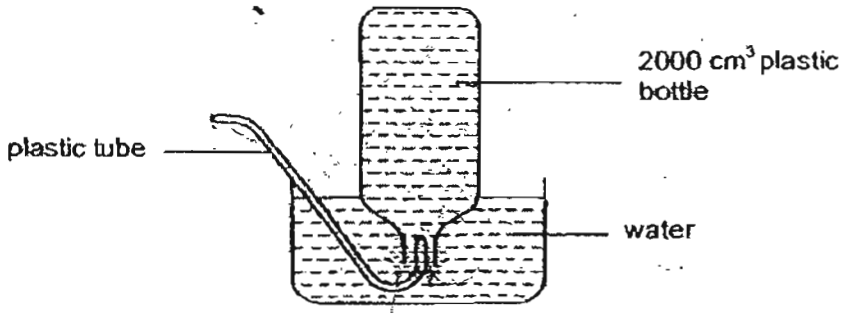
_____

(b) State the conditions that must be kept the same or changed in order to carry out a fair test. [2]

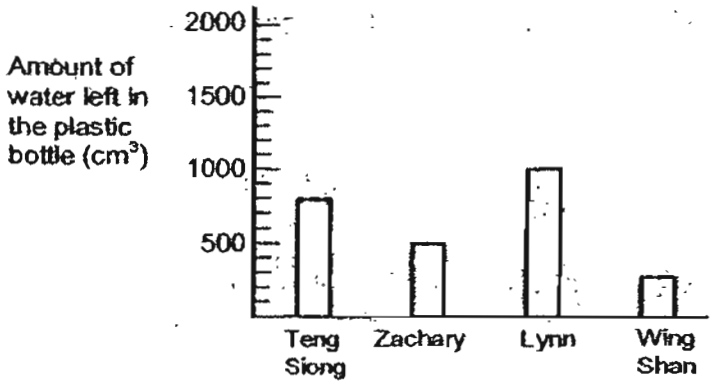
	Conditions
Keep the same	
Change	

Score	3

30. A group of pupils set up an experiment as shown in the diagram below to find out whose lungs can hold the most air.



The pupils took turns to take a deep breath and blow as much as he or she could into the plastic tube. The graph below shows the results they obtained.



Answer the following questions based on the graph.

(a) How much air can Zachary's lungs hold? [1]

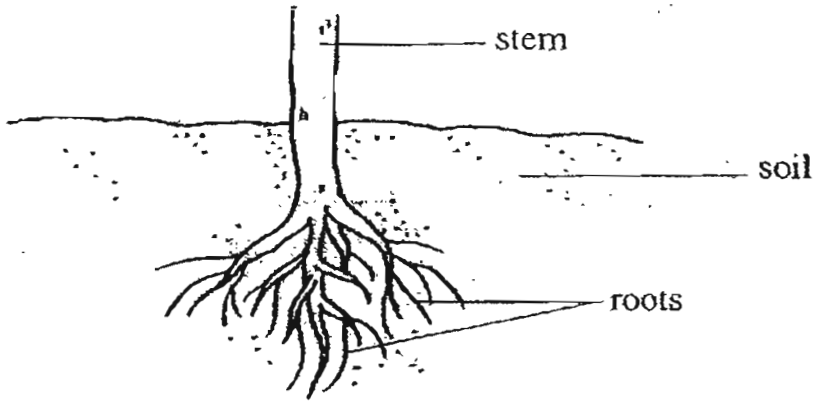
_____

(b) Whose lungs can hold the most air? [1]

_____

Score	2

31. The diagram below shows the stem and roots of a plant.



(a) Why do the roots grow downwards into the soil? [1]

_____

_____

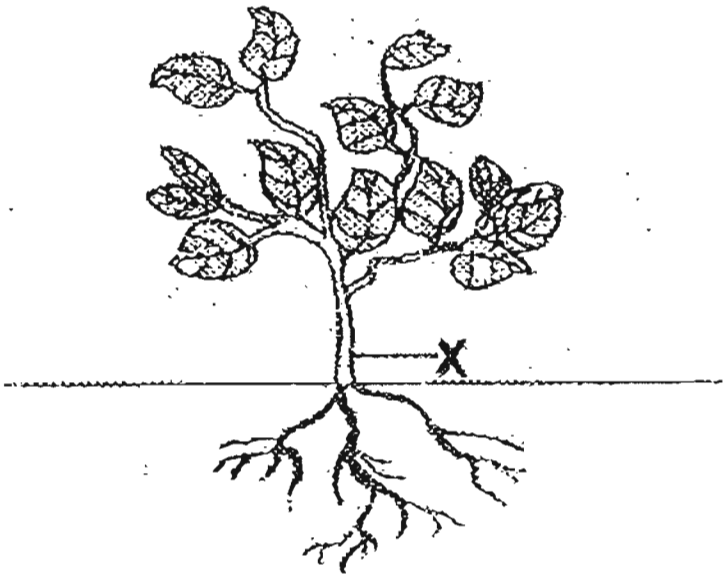
(b) Where do the roots get the energy to grow? [1]

_____

_____

Score	2

32. Look at the diagram of a plant below.

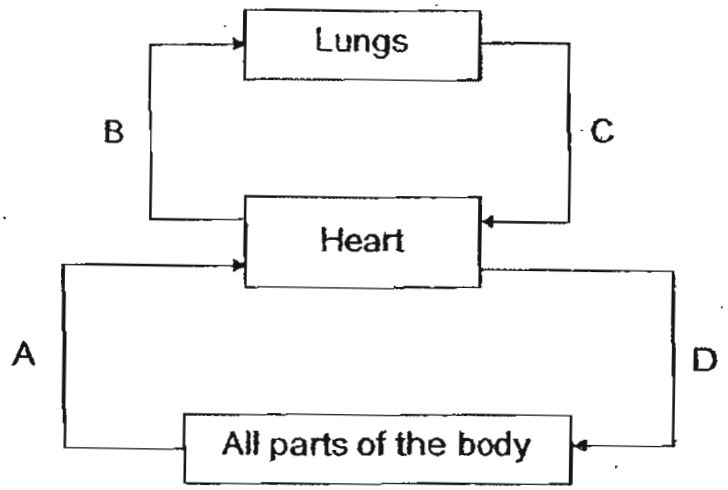


(a) Can the branches and leaves continue to grow if the plant is chopped at X? [1]

(b) Give a reason for your answer in (a). [2]

Score	3

33. The diagram below shows the circulation of blood in our body.



(a) Which arrows (A, B, C or D) indicate blood rich in oxygen? [2]

_____

(b) How many times does blood pass through the heart during one complete circulation round the body? [1]

_____

Score	3

34. The table below shows the breathing rates of different people when they are resting.

People	Breathing rate (number of breaths per minute)
Babies	27 to 35
Teenagers	21 to 25
Adults	18 to 20
Senior Citizens	16 to 17

Use the information given in the table above to answer the following questions.

(a) How does the breathing rate vary according to age? [1]

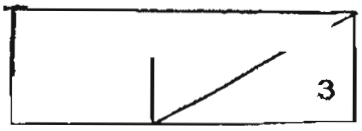
_____

(b) Tom, a 14-year old boy, checked his breathing rate one day while he was resting. What would his breathing rate be? [1]

_____

(c) After playing basketball with his friends, Tom checked his breathing rate again. He found that his breathing rate was 30 breaths per minute. Why was his breathing rate higher? [1]

_____



35. Put a "T" for statements that are **true** and an "F" for statements that are **false**. [2]

(a)	Heat and light are forms of energy.	
(b)	Heat energy is needed by green plants to make food.	
(c)	Energy is needed to make things move or work.	
(d)	Energy is needed by living things to carry out life processes.	

36. State the function of each of the following systems. [2]

(a) Circulatory system : _____

_____

_____

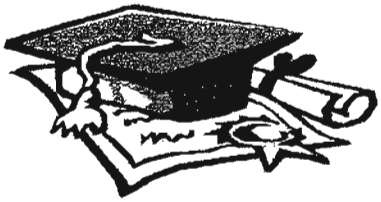
(b) Respiratory system : _____

_____

_____

END OF PAPER

Score	
	4



ANSWER SHEET

NAN HUA PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007
CONTINUAL ASSESSMENT (2)

1. 2
2. 3
3. 1
4. 2
5. 1
6. 3
7. 3
8. 1
9. 4
10. 1
11. 2
12. 1
13. 3
14. 4
15. 2
16. 2
17. 4
18. 1
19. 3
20. 4

21) a) P: Evaporation.
Q: Condensation.
b) It cools the water vapour which condenses into water.

22) a) Size of candle.
Type of candle.
b) The size of the container affects the burning time of the candle.

23) a) Use a toothpick to make hole at the end of the plastic bottle.
b) It tells us that air takes up space.

24) a) The water level in container P has dropped while the water level in container Q remained the same.
b) The oil is to prevent water from evaporating.
c) The experiment shows that a balsam plant takes in water from its roots.

25) Artery
Vein
Capillary

26) a) T b) F c) T d) F

27) a) The air in the beaker takes up Space and it cannot escape.
b) The rate of the drip will become faster because the air in the beaker can escape to make room for the water.

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28) There was tiny air spaces between the pebbles for the water to seep in.

29) a) Set-up A and C.
b) Keep the same: Size of beaker.
Volume of water.
Change : Temperature.

30) a) 1500cm²
b) Wing Shan

31) a) So that it can absorb water that are deep in the soil.
b) The roots get the energy from the food the leaves made.

32) a) No.
b) Water and dissolved minerals absorbed at the roots can no longer be transported to the rest of the plant.

33) a) C and D. b) 2 times.

34) a) The older the person is the lesser the number of breaths.
b) His breathing rate would be from 21 to 25 breaths per minute.
c) During exercise the body needs more oxygen. So Tom needs to breathe in to take in oxygen in oxygen quickly.

35) a) T b) F c) T d) T

36) a) It is to transport digested food, oxygen and nutrients around the body and collect waste material and carbon dioxide.
b) It takes in oxygen and give out carbon dioxide.

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