

SAT

NAN HUA PRIMARY SCHOOL
MID-YEAR EXAMINATION 2005
SCIENCE
PRIMARY 4

Name : _____ ()

Marks : ____ / 80

Class : Primary 4 _____

Practical Test : ____ / 20

Date : 12 May 2005

Total Marks : ____ / 100

Duration : 1 h 30 min

Parent's Signature

Section A : (25 × 2) marks

Choose the correct answer for each question and write its number in the brackets provided.

1. Which of the following below are considered matter?

- A. Cloud
- B. Shadow
- C. Water vapour

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

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2. Study the classification table below.

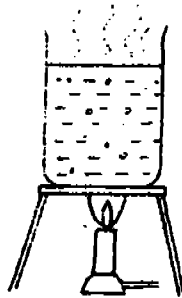
Group P	Group Q	Group R
Ice	Mist	Steam
Snow	Water	Water vapour
Solid	Liquid	

Which one of the following below can be placed in Group P?

- (1) Dew
- (2) Hail
- (3) Rain
- (4) Cloud

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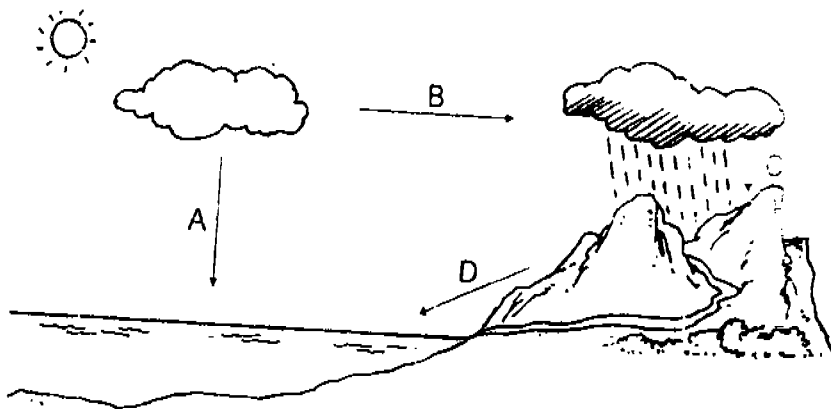
3. The diagram below shows a beaker of water. When the water is being heated, the temperature rises. However, once it reaches boiling point (100°C), the temperature remains constant even when it is heated continually. Where does most of the heat go to?



- (1) The heat goes to the tripod stand.
 (2) The heat is used to warm the beaker.
 (3) The heat escapes into the surroundings.
 (4) The heat is used to change the state of water to steam. ()

4. The diagram below shows what Jack drew in his books to illustrate a water cycle.

Which one of the arrows is drawn wrongly?



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

5. What will happen when there is an oil spill in the ocean?

- (1) The oil will evaporate quickly.
- (2) The oil will dissolve in the seawater.
- (3) The birds will have their wings stained with oil, but can still fly.
- (4) The plants and the animals living in the ocean will be affected and will probably die.

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6. Mary shouted, "Mum! The lake behind our house is filled with green stuff. It looks very dirty and smells terrible." What has happened? Which one of the following is the most likely cause of pollution in the lake?

- (1) Rain
- (2) Fertilisers
- (3) Petroleum
- (4) Toxic chemicals

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7. The air that we breathe in passes from the _____.

- (1) nose → throat → lungs → windpipe
- (2) mouth → throat → lungs → air tubes
- (3) nose → windpipe → air tubes → lungs
- (4) nose → windpipe → blood vessel → air tubes

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8. Which of these living things do not breathe through gills?

- (1) Guppy
- (2) Shark
- (3) Garoupa
- (4) Sea Cow

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9. Fishes breathe using their _____, while mammals breathe using their _____.

- (1) blood vessels; mouths
- (2) mouths; gullet
- (3) gills; lungs
- (4) gill covers; lungs

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10. Which one of the following does not show the important uses of water?

(1)



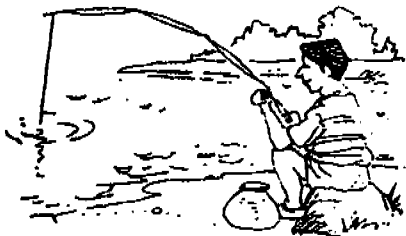
Watering plants

(2)



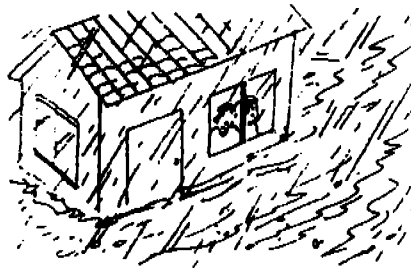
Putting out fire

(3)



Fishing

(4)



Flood

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11. The air at the Bukit Timah Nature Reserve is fresher than the air along the Pan-Island Expressway where there is a lot of traffic. Which of the following statements could be the reason for this?

- A There are more vehicles along the Pan-Island Expressway that give off carbon dioxide.
- B There are more vehicles along the Pan-Island Expressway that give off oxygen.
- C There are more plants at the Bukit Timah Nature Reserve which help to contribute to the fresh air.

- (1) A and B only
- (3) B and C only

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

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12. Photosynthesis can only take place in the day because _____

- (1) there is a lack of oxygen at night
- (2) plants lose their chlorophyll at night
- (3) there is an absence of sunlight at night
- (4) there is a lack of carbon dioxide at night

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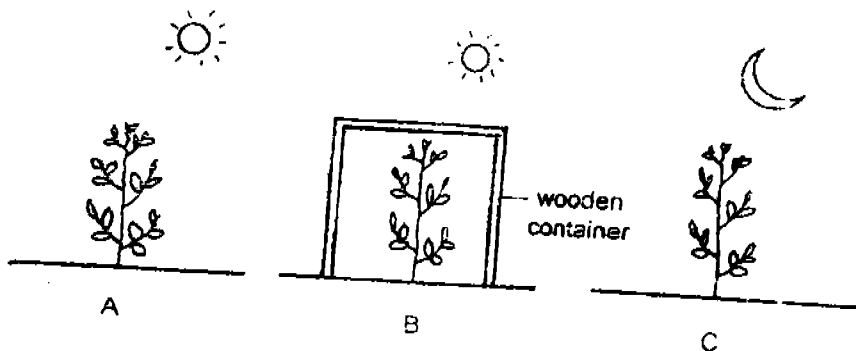
13. Which of the following process(es) require oxygen to be present?

- A. Respiration
- B. Burning
- C. Photosynthesis

- (1) A only
- (2) A and B only
- (3) B and C only
- (4) All of the above

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14. Which one of the following plants are not making food?



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

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15. Which one of the following statements about plants is incorrect?

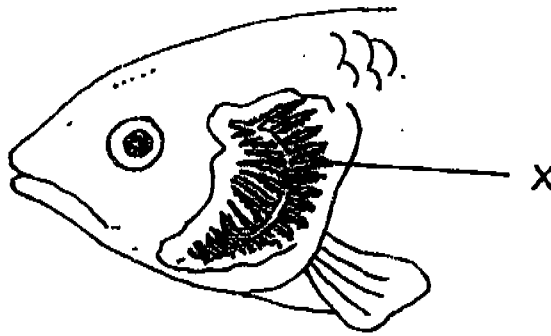
- (1) Water is needed for plants to make food.
- (2) Plants take in oxygen throughout the day.
- (3) Plants give out carbon dioxide in the presence of light.
- (4) Non-green plants can sometimes make food in light energy.

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16. The diagram below shows some parts of a fish. The part labelled X is the

- (1) fin
- (2) gills
- (3) scale
- (4) mouth

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17. The exchange of gases in the air sacs of the lungs involves the exchanging of

- A. oxygen from the lungs to the blood
- B. nitrogen from the blood to the lungs
- C. hydrogen from the lungs to the blood
- D. carbon dioxide from the blood to the lungs

- (1) A and B only
- (3) A and D only

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

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18. Sam was sitting in a room with all the windows and doors closed. Suddenly, the curtains caught fire and he started choking. Which of the following are the reasons for this?

- A. The heat from the fire choked Sam.
- B. The smoke from the fire choked Sam.
- C. Burning produced carbon dioxide which suffocated him.
- D. Oxygen in the room was used up for burning, therefore not leaving any oxygen for Sam to breathe in.

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

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19. Mary tried to blow a balloon but could not inflate it. Which one of the following is not a likely reason?

- (1) The balloon has a hole in it.
- (2) The balloon may be too rigid for her to blow.
- (3) The air she breathes out contains lots of carbon dioxide.
- (4) She has held the mouth of the balloon too tightly so that no air can go in.

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20. Which one of the following statements about the respiratory system is true?

- (1) It helps plants to give out oxygen during photosynthesis.
- (2) It helps living things to exchange carbon dioxide for oxygen.
- (3) It helps plants to get energy from digested food using nitrogen.
- (4) It helps living things to get energy from digested food using oxygen.

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21. Which of the following objects do you think is least likely to be made of plastic?

- (1) A shopping bag
- (2) A drink container
- (3) The handle of a kettle
- (4) The base of a cooking pot

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22. Wood is a good material for making chairs. This is because wood _____.

- (1) is strong and lasting
- (2) is waterproof and solid
- (3) feels soft and warm to sit on
- (4) is flexible when you sit on it

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23. A green leaf, a wooden bench, a stack of newspaper and a piece of tissue paper are common because they _____.

- (1) come from trees
- (2) are strong and hard
- (3) are of the same colour
- (4) can be folded into any shape

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24. What materials can rulers be made of?

- A. Rubber
- B. Wood
- C. Metal
- D. Plastic

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

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25. Look at the classification table below

Objects

Group A	Group B	Group C
Book	Flag	Tyre
Stamp	Socks	Eraser
Envelope	Uniform	Slippers

Paper Fabric Rubber

The above objects are grouped according to _____

- (1) their shape and size
- (2) their colour and weight
- (3) their usage and functions
- (4) the kind of materials they are made of

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Section B : (30 marks)

Answer all the questions in the blanks provided.

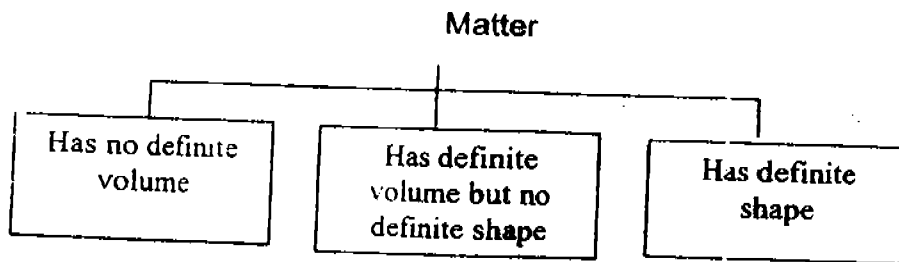
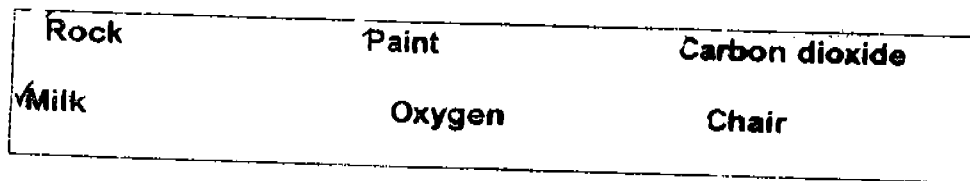
26. (a) State one similarity between a liquid and a gas.

(1 mark)

(b) State one difference between a solid and a gas.

(1 mark)

27. Classify the following into the correct groups.



(3 marks)

(not effect)

28. Describe two possible ways in which a ship carrying petroleum can pollute the water in the ocean.

i) _____

ii) _____

(2 marks)

29. Given below is the water usage of three households in a month.

Household	Number of people in the household	Water usage (cubic metres)
A	4	16
B	5	21
C	6	28

(a) Which household used the most amount of water?

_____ (1 mark)

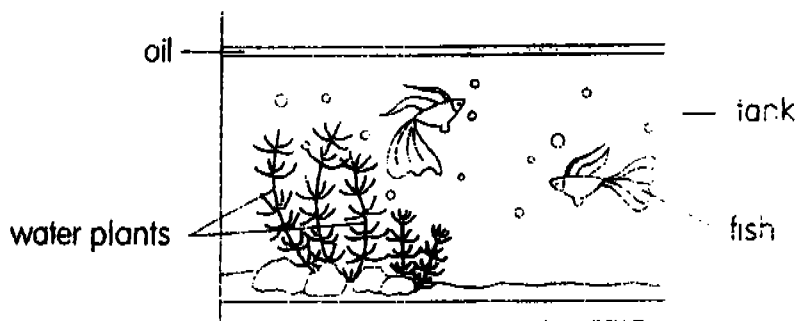
(b) If the rate of water usage is \$2.00 per cubic metres, how much would household B be paying for that month?

_____ (1 mark)

30. Oxygen is constantly used up by living things and carbon dioxide is produced. How does nature ensure that oxygen is not used up in the air?

_____ (2 marks)

31. Two fishes are placed in a tank of water with some water plants. A layer of oil is poured into the tank. The tank is then placed in the dark.



The two fishes will die after some time. Give two reasons and explain why this will happen.

(2 marks)

32. Read the following statements. Write "True" for statements that are true and "False" for statements that are false in the blanks provided.

(a) Air is made up of a mixture of gases. _____

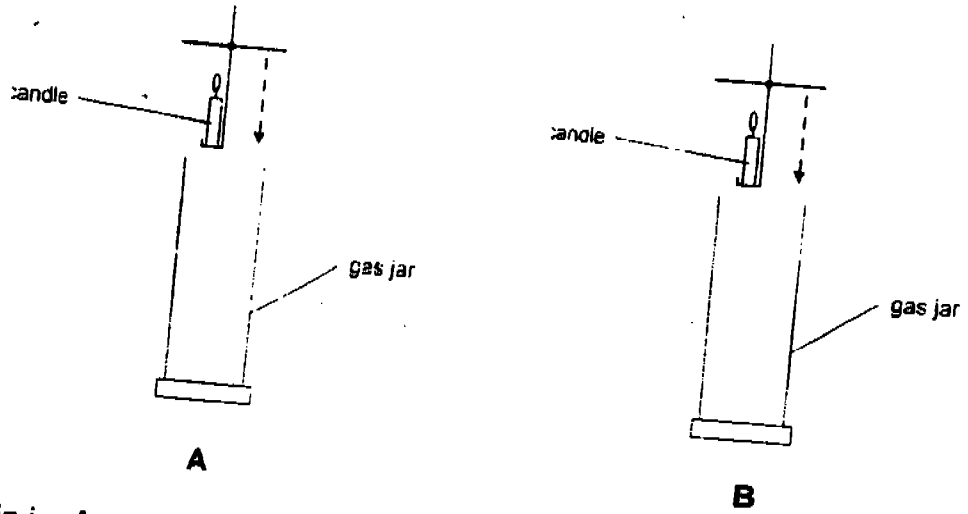
(b) The proportion of water vapour in air is fixed. _____

(c) Nitrogen is the most abundant gas in the air. _____

(d) Air contains less than 1% carbon dioxide. _____

(2 marks)

33. A lighted candle is each carefully lowered into two gas jars, A and B as shown below.

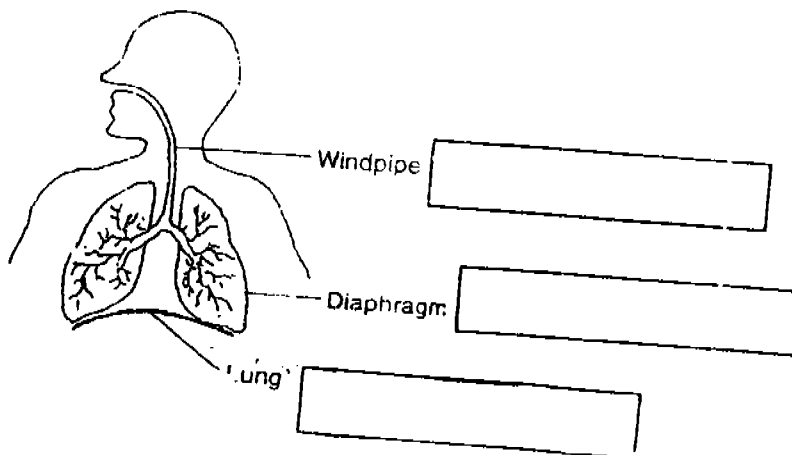


The gas in jar A extinguished the flame immediately while the flame lasted slightly longer in jar B. Complete the table below to identify the gas that is present in each gas jar.

Gas Jar	Name of gas present in the jar
A	
B	

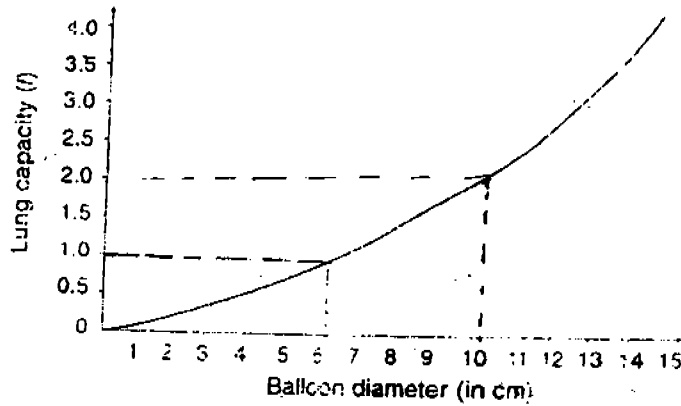
(2 marks)

34. Given below is a picture of the human respiratory system. Which of the following organs are wrongly labelled? Label them correctly in the boxes provided.



(1 mark)

35. Jane plotted a graph based on the measurement of her lung capacity by using a balloon blowing method.



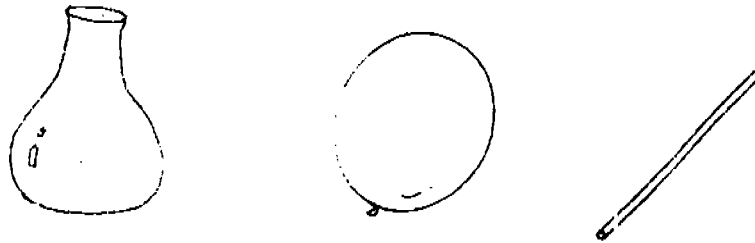
(a) From the above graph, what would her lung capacity be when the diameter of the balloon is 10 cm?

_____ (1 mark)

(b) What would the balloon's diameter be for a lung capacity of 1 litre?

_____ (1 mark)

36. The following equipment was set up to show how the lungs work.



(a) What structure in your body does the balloon represent? _____ (1 mark)

(b) What structure in your body does the straw represent? _____ (1 mark)

37. Describe the function of the following organs:

(a) Nose : _____

(b) Windpipe : _____

(c) Air tubes : _____

(d) Lungs : _____

(2 marks)

38. Fill in the blanks with the correct terms shown in the box. (You may use a term more than once)

is light in weight	breaks easily	is waterproof
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(a) Plastic is a good material for a drinking cup are because it

_____ and _____

(b) A property of glass that makes it a good material for a drinking cup is

that it _____

(c) A property of glass that makes it **not** as good a material as plastic for a

drinking cup is that it _____

(2 marks)

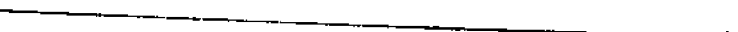
39. Draw lines to match each object with what it is usually made of.

<u>Object</u>		<u>What it is usually made of</u>
cup and saucer	•	• iron
nail	•	• glass
envelope	•	• ceramic
window pane	•	• paper

(2 marks)

40. Arrange these four materials in the order from the hardest to the softest.

Wood	Rubber	Metal	Ceramics
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Hardest  Softest

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(2 marks)

--End of paper--

---Please check your work---

Nan Hua Primary School
Primary 4 Science SA1 Exams (2005)

Exam Centre

Answer Sheets

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

- 26a. Both a liquid and a gas do not have a definite shape
- 26b. A solid has a definite shape whereas a gas does not have a definite shape.
27. Oxygen Milk Rock
 Carbon Dioxide Paint Chair
28. (i) When there is a leakage the petroleum spills and can pollute the water.
 (ii) Some people may throw it into sea and it can pollute the water.
- 29a. Household C used the most amount of water.
- 29b. Household B will be paying \$42.00 for that month .
30. Plants take in carbon dioxide and give out oxygen, therefore nature ensure that oxygen is not used up in the air.
31. There is a layer of oil preventing oxygen from entering the water and there is also no light energy for the plant to produce oxygen by photosynthesis. Thus once the oxygen is used up, the fish will die.
- 32a. True
 32b. False
 32c. True
 32d. True
33. A : Carbon Dioxide
 B : Oxygen

34. Windpipe
Lung
Diaphragm
- 35a. Her lung capacity would be 2.08
- 35b. The balloons diameter would be 6.3cm
- 36a. Lungs
36b. Windpipe
- 37a. It is to trap dirt and moisten the air going through.
- 37b. It is the main air tube that carries air to and from the lungs.
- 37c. They are bellow tubes that carry air to be from the lungs.
- 37d. Oxygen from the air we breathe in is absorbed into the bloodstream and unwanted carbon dioxide is removed from the block.
- 38a. Is light in weight and is waterproof.
- 38b. Is waterproof.
- 38c. Breaks easily.
39. Cap and saucer – ceramic
Nail - iron
Envelope - paper
Window pane - glass
40. Metal → ceramics → wood → rubber.