

SIA2

TAO NAN SCHOOL
PRIMARY FOUR SCIENCE END-OF-YEAR EXAMINATION – 2005

Name : _____ ()

Date : 31 Oct 2005

Class : Pri 4 ___

Time : 7.55 am – 9.25 am

Parent's signature : _____

Marks : /100

Section A (30 X 2 marks)

For each of the questions from 1 to 30, four options are given. One of the four options is the correct answer. Select the correct answer and shade its corresponding oval (1, 2, 3 or 4) on the Optical Answer Sheet.

- 1) Which of the following groups is matter?
- (1) eraser, iron, oil
 - (2) mud, grass, light
 - (3) sound, moon, sun
 - (4) plastic, shadow, glass
- 2) What are rain clouds made up of ?
- (1) Smoke
 - (2) Steam
 - (3) Water vapour
 - (4) Water droplets
- 3) Which of the following is a property of matter. It _____.
- (1) has mass
 - (2) is weightless
 - (3) cannot be seen
 - (4) does not occupy space
- 4) Which of the following properties best describe a solid ?
- A) Has definite shape
 - B) Has definite volume
 - C) Has no definite shape
 - D) Can be compressed
- (1) A and B only
 - (2) B and C only
 - (3) C and D only
 - (4) A and D only

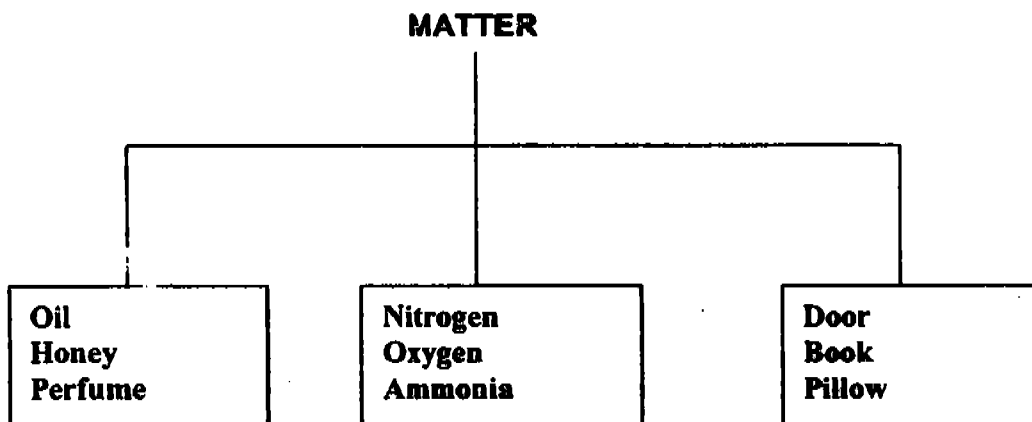
- 5) An experiment was conducted to test the properties of some solids, liquids and gases. The table below shows the results of the experiment.

| STATE OF MATTER | X | Y | Z |
|-----------------------|-----|-----|-----|
| Takes up space | Yes | Yes | Yes |
| Has no definite shape | No | Yes | Yes |
| Can be seen | Yes | Yes | No |

Which of the following represents the correct headings for X, Y and Z?

| | X | Y | Z |
|-----|--------|--------|--------|
| (1) | Solid | liquid | gas |
| (2) | Liquid | solid | gas |
| (3) | Gas | liquid | solid |
| (4) | Solid | gas | liquid |

- 6) Study the classification table below carefully.



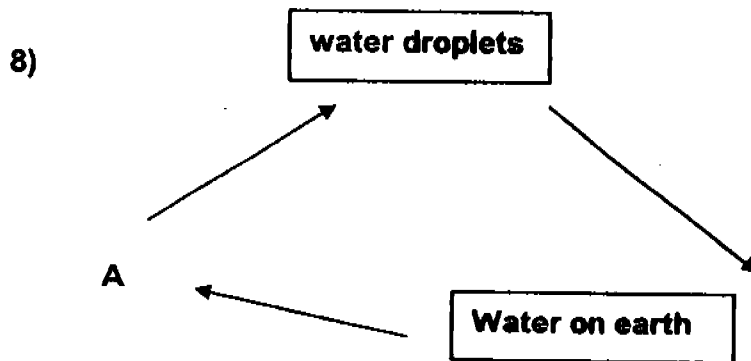
From the above table, what can you tell about ammonia?

- (1) It is a gas
- (2) It is a solid
- (3) It is a liquid
- (4) It is a non-matter

7) The state of water depends on the _____.

- A : temperature of the surroundings .
- B : size of the container it is placed in
- C : amount of heat it gains or loses
- D : shape of the container it is placed in

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



In the water cycle above, what happens to the water at Stage A?

- (1) It changes to snow
- (2) It returns to earth as rain
- (3) It changes to water vapour
- (4) It condenses to form clouds

9) Which of the following activities is an example of reusing water ?

- (1) Using rain water for washing
- (2) Using a shower instead of a bathtub to bathe.
- (3) Collecting water used for rinsing rice to water plants.
- (4) Washing dishes in a basin of water instead of under a running tap.

10) Which of the following would help us reduce the amount of water bought from other countries ?

- A : Recycling water
- B : Taking a bath instead of a shower
- C : Purifying water from reservoirs before use
- D : Building more water catchment areas to collect rainwater

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

11) The amount of dissolved oxygen found in water is often reduced by the presence of _____.

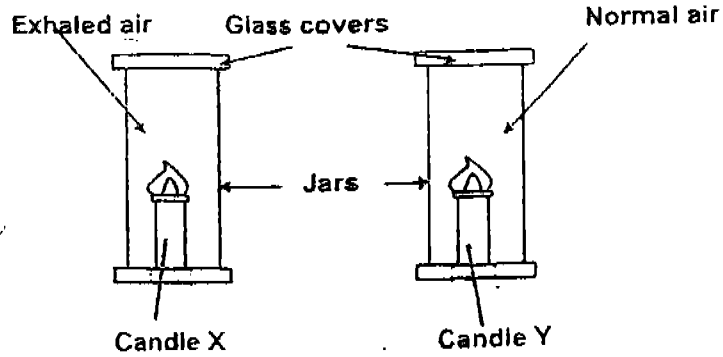
- A : algae
- B : marine plants
- C : marine animals

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

12) When we breathe in or out, the _____ moves and this causes the change in the size of our chest cavity.

- (1) nostrils
- (2) air sacs
- (3) windpipe
- (4) diaphragm

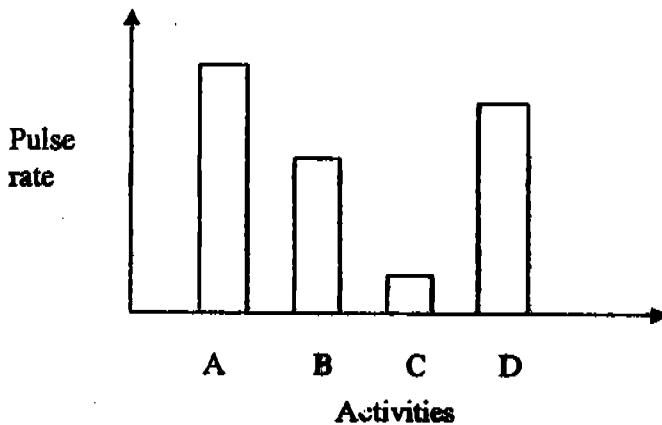
13)



Jeric had two jars of the same size. He exhaled into one of the jar and then put in a lighted candle X. He put a similar lighted candle Y into the other jar. Which of the following responses best explains what should happen?

- (1) Candle Y goes out later as its jar contains less water vapour than the other jar
- (2) Candle X goes out first as its jar contains less oxygen than the other jar.
- (3) Candle Y goes out first as its jar contains more oxygen than the other jar.
- (4) Both candles go out at the same time as their jars do not contain enough oxygen for burning.

14) The graph below shows the pulse rate of a boy during different activities.



Which activities do A, B, C and D represent?

| | A | B | C | D |
|-----|-----------|-----------|-----------|----------|
| (1) | sprinting | sleeping | walking | jogging |
| (2) | sprinting | walking | sleeping | jogging |
| (3) | Jogging | sprinting | sleeping | walking |
| (4) | Walking | jogging | sprinting | sleeping |

15) When you jog, your _____.

- A : breathing slows down
- B : heartbeat rate increases
- C : body needs more energy and oxygen

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

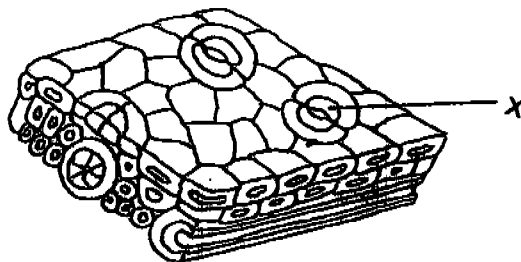
16) The xylem in the stem transports _____ from the roots to other parts of the plant.

- (1) food and air
- (2) food and water
- (3) sugar and starch
- (4) water and mineral salts.

17) Which one of the following is transported through the phloem?

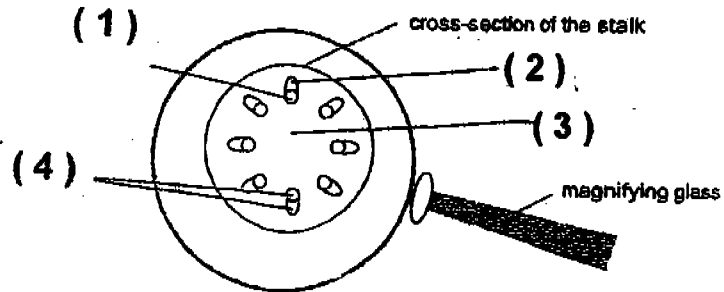
- (1) Food
- (2) Water
- (3) Minerals
- (4) Dissolved air

18) "X" is a special plant part found on leaves. It is called _____.



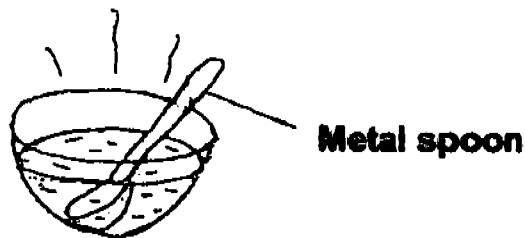
- (1) bud
- (2) xylem
- (3) stoma (stomata)
- (4) phloem

- 19) Flora cut a stalk of a flower and dipped the end of the stalk into a cup of red dye. After 5 hours, when she observed the stalk under a magnifying glass, some parts were stained red.



Which of the following correctly shows where the red stain would be?

- 20) Look at the picture below.

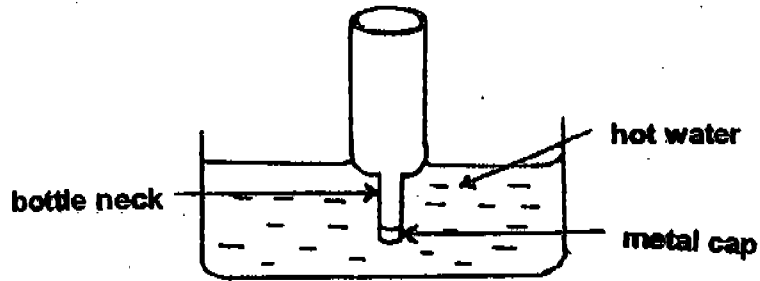


Bowl of hot soup

A metal spoon was left in a bowl of hot soup. After some time, the metal spoon felt hot because heat from the _____.

- (1) bowl travelled to the soup
- (2) spoon travelled to the soup
- (3) hot soup travelled to the spoon
- (4) surrounding air travelled to the spoon.

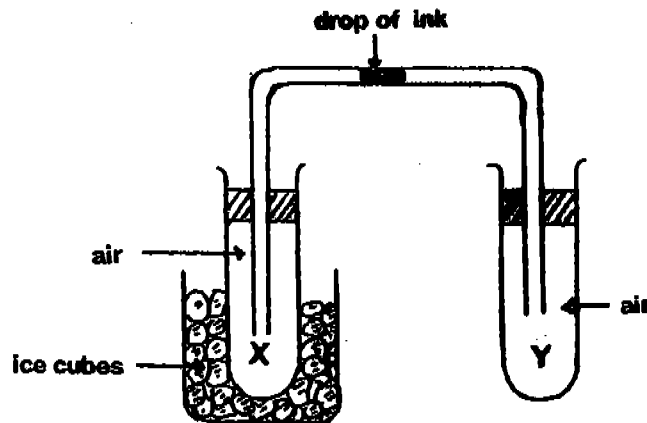
21)



A tight metal cap of a bottle can be loosened by immersing the bottle neck in hot water as shown in the diagram. This is because the _____.

- (1) bottle neck expands more than the cap
- (2) cap expands more than the bottle neck
- (3) bottle neck contracts more than the cap
- (4) cap contracts more than the bottle neck

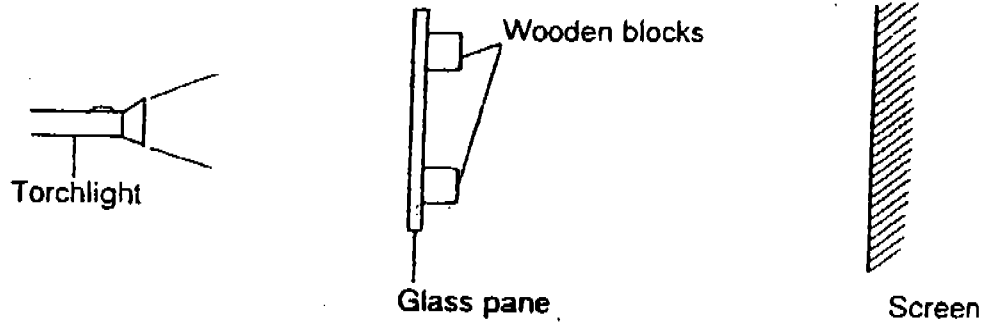
22)



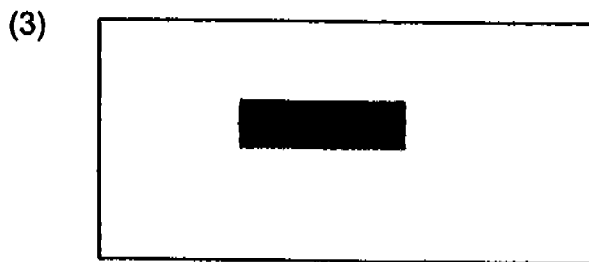
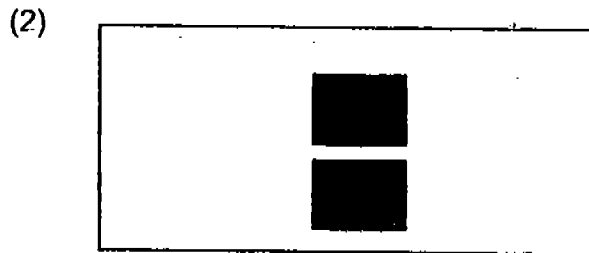
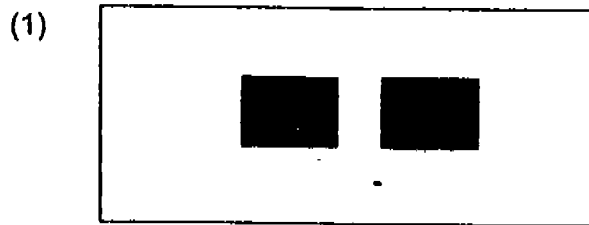
A glass tube as shown above connects two test-tubes. If test-tube X is put into a beaker of ice cubes, the drop of ink will _____.

- (1) evaporate
- (2) move towards X
- (3) move towards Y
- (4) remain where it is

23) Study the diagram below carefully.



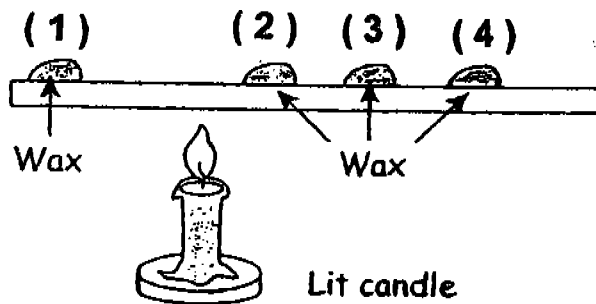
Which of the following shows the shadow that is cast on the screen when the torchlight is switched on?



24) Which of the following is our primary source of light and heat energy ?

- (1) Sun
- (2) Stars
- (3) Earth
- (4) Moon

25) Study the diagram carefully.



Which drop of the wax will melt first?

26) When a cup of ice water is left on a table in the living room, its temperature _____.

- (1) increases because it gains heat from the surrounding.
- (2) increases because it loses heat to the surrounding.
- (3) decreases because it gains heat from the surrounding.
- (4) decreases because it loses heat to the surrounding.

27) Which of the following materials would keep your drink hot for the longest time ?

- (1) Iron
- (2) Glass
- (3) Steel
- (4) Styrofoam

28) When a torch is shone at a balloon from different angles, we will see shadows of various _____.

- A : sizes
- B : shapes
- C : colours

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

29) The young of a _____ looks like its parents.

- (1) beetle
- (2) butterfly
- (3) housefly
- (4) cockroach

30) When two magnets are placed near to each other, they move in the directions as indicated by the arrows.



Which of the following statements is *false* ?

- (1) A and C are like poles.
- (2) A and D are unlike poles.
- (3) B and C are unlike poles.
- (4) B and D are unlike poles.

Name : _____ (.)

Class : Pri 4 (.)

Marks : ___ / 40

Section B (40 marks)

Fill in the blanks with the correct answers

31) Classify the following correctly. (2 marks)

| | | | |
|-------|-------|------|------|
| steam | light | heat | sand |
|-------|-------|------|------|

| Matter | Non - matter |
|-------------------|-------------------------|
| | |
| | |

32) When the entire contents of a packet of milk is poured into a glass, what do you observe ? Tick (✓) the correct boxes below. (2 marks)



| | Change | No Change |
|----------------|-------------------|----------------------|
| Volume of Milk | | |
| Weight of Milk | | |
| Shape of Milk | | |
| Colour of Milk | | |

- 33) Danny filled 4 identical glasses with the same volume of water. He left them for one day in four places with different conditions as listed in the table below.

| Glass | P | Q | R | S |
|------------------------|-----------|-------|-----------|--------|
| Surrounding conditions | Sunny | Sunny | Cloudy | Cloudy |
| | Not windy | Windy | Not windy | Windy |

Arrange the glasses (P, Q, R, S) according to the volume of water left in them after one day, from the least to the most. (2 marks)

least _____ → most

| | | | |
|---|--|--|--|
| Q | | | |
|---|--|--|--|

- 34) a) State the use of the solid matter collected at the end of the sewerage treatment process.

_____ (1 Mark)

- b) What is the difference between the water collected at the end of this sewerage treatment process and the water collected in the reservoir? (2 marks)

- 35) List three ways in which we can conserve water. (3 marks)

- a) _____
- b) _____
- c) _____

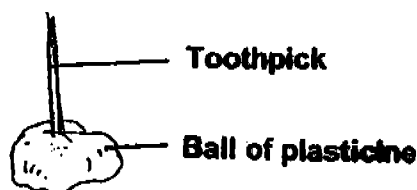
- 36) Lindsay measured the chest size of her friends when they breathed in and out. The following are the results she obtained.

| Name | Chest size (cm) | |
|----------|-------------------|-------------|
| | Breathe in | Breathe out |
| Armani | 49 | 47 |
| Tahakiro | 56 | 52 |
| Teri | 53 | 50 |
| Silver | 51 | 48 |

- a) What was Lindsay trying to find out ? (1 mark)

- b) Who has the greatest change in chest size when breathing in and out ? (1 mark)

- 37) Justin wanted to find out if the age of a person would affect the pulse rate. He carried out an experiment using a simple device, made of a small ball of plasticine and a toothpick.



- a) On which part of the arm should he place the device to get the pulse rate ? (1 mark)

- b) What was he measuring when he measured the pulse rate ?
(1 mark)

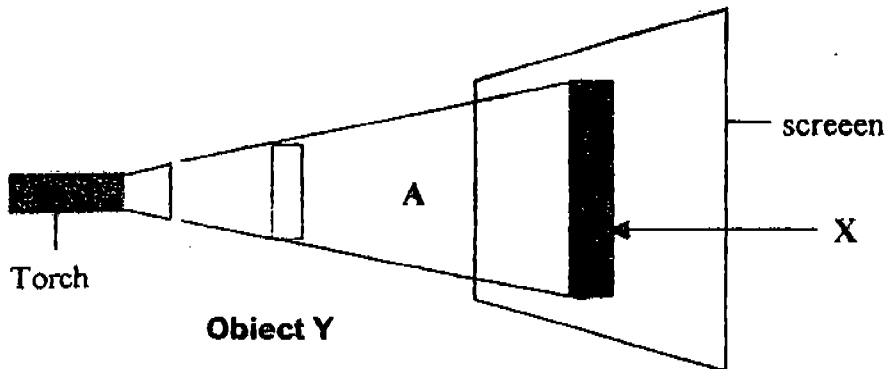
38) What happens to a plant when its xylem and phloem are destroyed?
Explain your answer. (2 marks)

Xylem - _____

Phloem - _____

39) Heat travels from a _____ surface to a _____ surface. (2 marks)

40) Study the diagram below carefully.



When object Y is placed in front of a torch, X is seen on the screen.

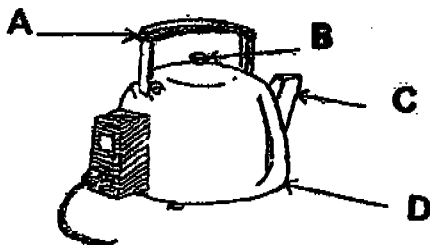
a) What is X?
_____ (1 mark)

b) If object Y is moved closer to the screen, X will become
_____ (1 mark)

- c) What is object Y most likely to be? Choose the correct answer and put a tick (✓) in the box next to it. (1 mark)

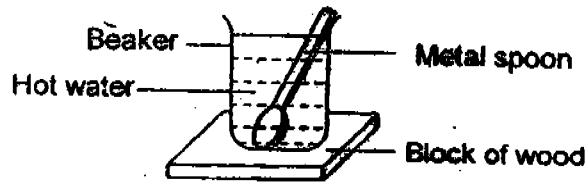
| | |
|--------------------------------|--|
| A transparent sheet of plastic | |
| A wooden block | |
| A clear glass container | |

- 41) Look at the diagram of a kettle below.



- a) Which parts of the kettle are made of poor conductors of heat?
 _____ and _____ (2 marks)
- b) Why are the parts named in (a) made of poor conductors of heat?
 _____ (1 mark)
- c) Poor conductors of heat are also known as _____ of heat. (1 mark)

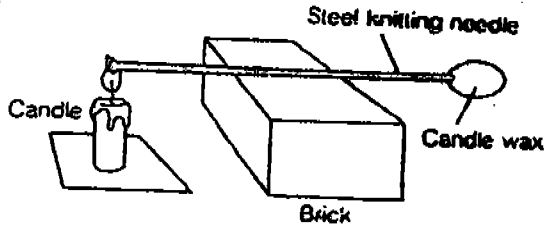
- 42) Flora put a metal spoon and some ice cubes into a beaker of hot water.



Identify the things which will gain heat from the hot water? heat. Put a tick (✓) in the appropriate column. (2 marks)

| | | Gain heat |
|-----|-----------------|-----------|
| (a) | Beaker | |
| (b) | Metal spoon | |
| (c) | Block of wood | |
| (d) | Surrounding air | |

- 43)



Study the above set-up carefully. One end of the knitting needle is heated by a candle flame.

- a) What will happen to the candle wax after a few minutes? (1 mark)

- b) What caused that to happen to the candle wax? (2 marks)

44) Read the following statements. Write "T" for true statements and "F" for false statements in the boxes provided. (2 marks)

- (a) Roots do not take in air.
- (b) The stems of woody plants are called trunks
- (c) Flowers may differ in colour, size and shape, but they are all sweet-smelling.
- (d) Most seeds need water and warmth to germinate.

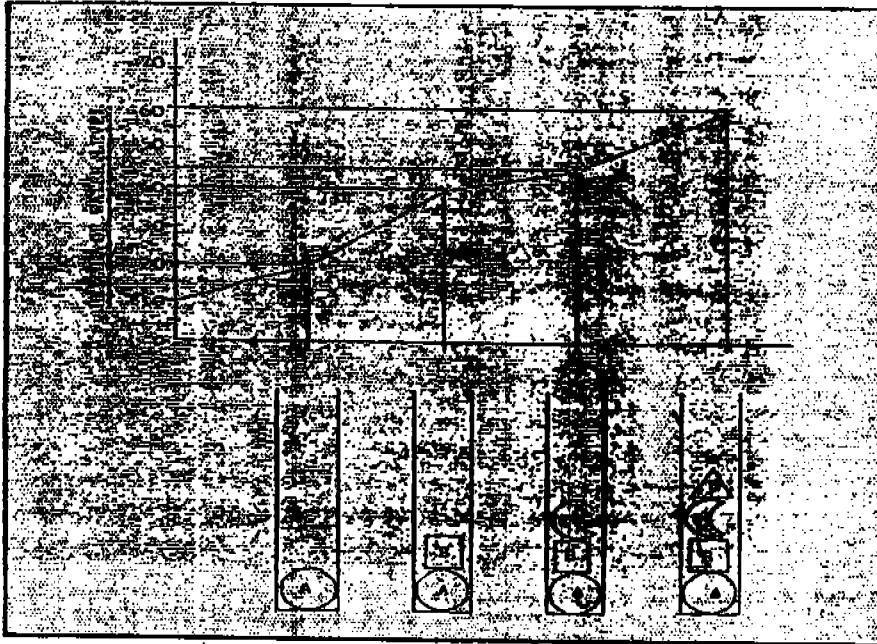
45) Look at the picture of a mango tree in a school garden.



Read the statements below carefully. Tick (✓) the ones which you can be most sure is true just by looking at the picture. (3 marks)

- The wind has knocked some mangoes off the tree
- There are mangoes on the ground and on the tree
- The mangoes on the tree are ripe
- The mangoes on the ground are bad
- The tree could not hold all its fruits
- There are more fruits on the tree than on the ground

- 46) Ben has 4 objects A, B, C and D. When he puts A into a measuring cylinder containing 10 ml of water, the water level rises. Then he puts B, followed by C and finally by D into the measuring cylinder. The graph below shows the water level after each object has been put into the measuring cylinder.




Find the volumes of objects B, C and D.

- The volume A is 10 cm^3
- The volume B is $\underline{\quad} \text{ cm}^3$. (1 mark)
- The volume C is $\underline{\quad} \text{ cm}^3$. (1 mark)
- The volume D is $\underline{\quad} \text{ cm}^3$. (1 mark)

End of Paper

SA2

TAO NAN SCHOOL
PRIMARY FOUR
SCIENCE
END OF THE YEAR EXAMINATION - 2005

- 1) 1
- 2) 4
- 3) 1
- 4) 1
- 5) 1
- 6) 1
- 7) 2
- 8) 3
- 9) 3
- 10) 2
- 11) 2
- 12) 4
- 13) 2
- 14) 2
- 15) 3
- 16) 4
- 17) 1
- 18) 3
- 19) 1
- 20) 3
- 21) 2
- 22) 2
- 23) 2
- 24) 1
- 25) 2
- 26) 1
- 27) 4
- 28) 3
- 29) 4
- 30) 4
- 31) Steam
- 32) 
- 33) P S R
- 34) a) fertilizer
- b) Treated sewerage water cannot be used and is discharged into the sea. The water that is collected in the reservoir can be treated and used for drinking.
- 35) a) Turn off tap after use.
- b) Collect rainwater to water plants in the garden.
- c) Ensure tap do not leak.
- 36) a) She was trying to find out if the chest size changes when breathing in and out.
- b) Tahakiro
- 37) a) The wrist
- b) The number of heart beats in a minute.
- 38) Xylem - The plant will die as water cannot be transported to the plant cells.
- Phloem - The plant will not be able to get the food because the phloem tube is destroyed.
- 39) hotter colder
- 40) a) A shadow
- b) Smaller
- c) A wooden block

41) a) A and B

b) We can touch the kettle while it is hot.

c) insulators

42) a) ✓

b) ✓

c) ✓

d) ✓

43) a) It will melt.

b) The heat from the burning candle travelled through the steel needle making the candle wax melt.

44) a) True

b) True

c) False

d) True

45)

46) a)

b) 20

c) 5

d) 15

45
240*