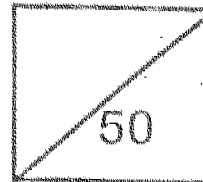


CAR

Rosyth School
Second Continual Assessment for 2004
SCIENCE
Primary 4

Name: _____ Marks: _____

Total



Class: Pr 4 _____ Register No. _____ Duration: 1 Hour

Date: 26 AUGUST 2004 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklets A and/or B until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 sections, A and B.
4. For questions 1 to 15 in Section A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces given in the booklet.

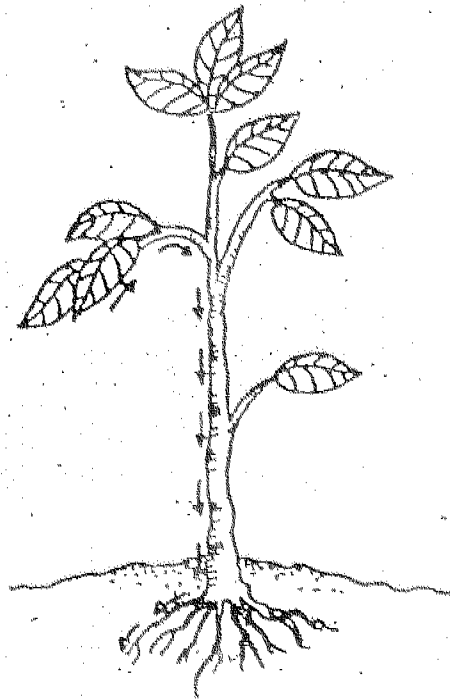
| | Maximum | Marks Obtained |
|-----------|----------|----------------|
| Section A | 30 marks | |
| Section B | 20 marks | |
| Total | 50 marks | |

* This booklet consists of 18 pages.

Section A (30 MARKS)

For each question from 1 to 15, 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.

1. Study the diagram below.

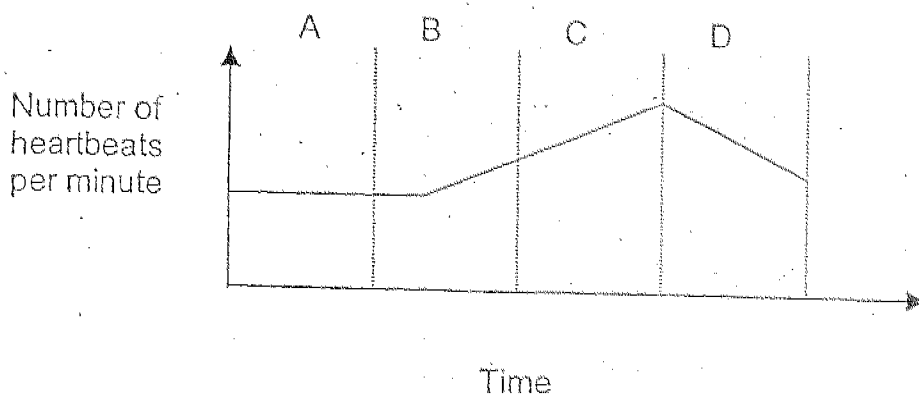


What movement do the arrows above indicate?

- A: Food
- B: Water
- C: Mineral Salts
- D: Carbon dioxide and Oxygen

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

2. Study the graph below.
It shows the number of heartbeats of a girl before, during and after a netball game.



Which part of the graph shows that the girl has just started playing netball?

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

()

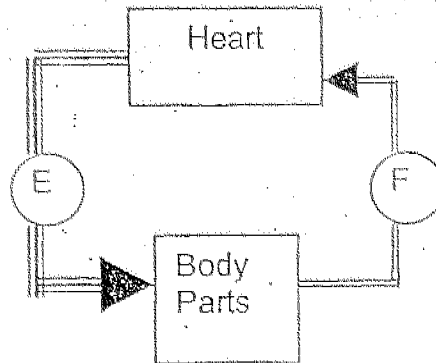
3. The xylem and phloem are parts of a circulatory system of a plant. As such, when compared to the circulatory system of a man, the xylem and phloem are similar to which of the following?

- A: Blood
B: Heart
C: Blood Vessels

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

()

4. The diagram that shows the circulation of blood between the heart and the other body parts of an animal.



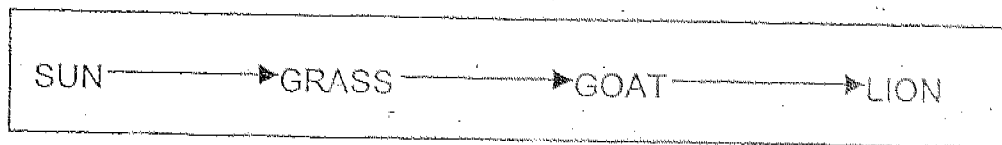
The table below shows the approximate composition of oxygen and carbon dioxide in the blood vessels E and F.

| Gases | Composition of air in blood vessels(%) | |
|----------------|----------------------------------------|----|
| | E | F |
| Oxygen | 21 | 16 |
| Carbon Dioxide | 0.04 | 4 |

What can you deduce from the above given information.

- (1) The heart contains many blood vessels.
 - (2) There is more carbon dioxide in E than in F.
 - (3) The body parts have used 5% of oxygen from E.
 - (4) The body parts have used all the oxygen present in E. ()
5. Which one of the following statements is true about the heart in man?
- (1) The heart is protected by the rib cage.
 - (2) The rate of heartbeats can be controlled.
 - (3) The heart is made up of muscles and bones.
 - (4) The exchange of gases takes place in the heart. ()

6. Refer to the chain diagram below.



What deductions can be made from the above chain diagram?

- A: Both goat and lion eat grass.
- B: Sun provides two forms of energy.
- C: Sun is the main source of energy for grass, goat and lion.
- D: Energy from the sun is transferred to the goat through the grass.

A and B only
 C and D only

B and C only
 A and D only

()

7. Which one of the following is the source of energy in the given situation?

Situation: *A boy listening to music from a battery operated radio.*

- (1) Heat
- (2) Battery
- (3) Sound
- (4) Radio

()

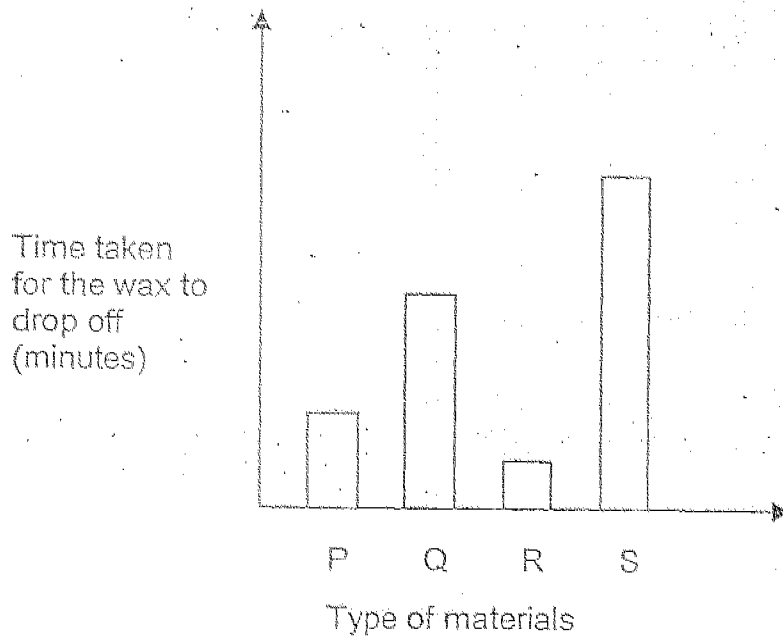
8. Which one of the following statements is true about energy?

- (1) It has mass.
- (2) It can be seen.
- (3) It has only one source.
- (4) It enables things to move.

()

Refer to the experiment and results below to answer questions 9 and 10.

Liana coated the 4 ends of different materials (P,Q,R,S) with some wax. Next, she heated the other-ends of each rod over a candle flame. She measured the time taken for the wax to drop off the rods. Her results are shown in the bar graph below.



9. Which of the following variables should she keep the same for a fair experiment?

- A: Amount of wax
- B: Similar sized rods
- C: Intensity of the flame
- D: Time taken for the wax to drop

A and B only

A,B and C only

C and D only

A,B,C and D

()

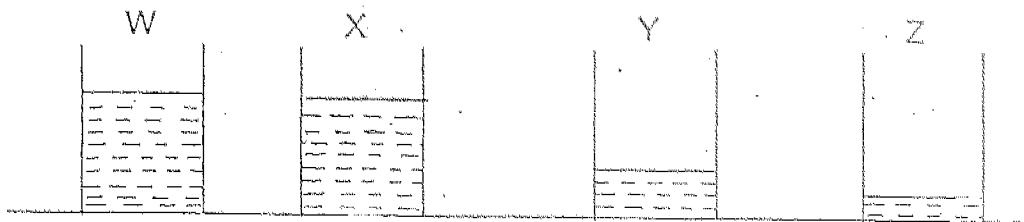
10. Which one of the materials (P, Q, R, or S) is most suitable for making the handle of a cooking pot?

- (1) P
- (3) R

- (2) Q
- (4) S

(. . .)

11. Study the diagram below.



70ml
20°C

70ml
80°C

40ml
20°C

10ml
80°C

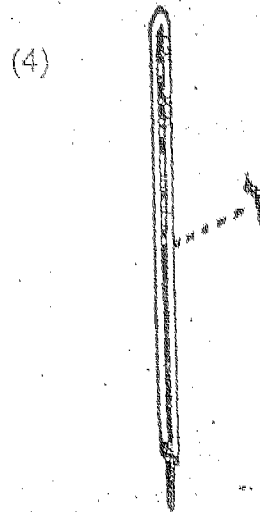
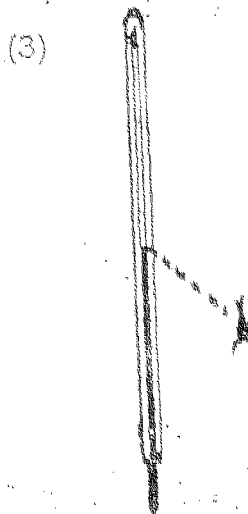
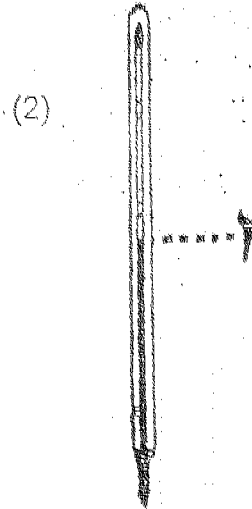
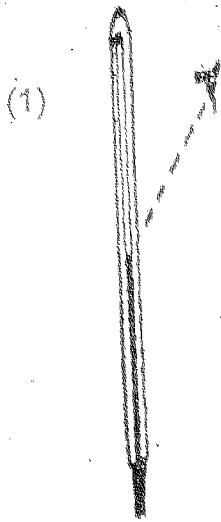
Which one of the containers holds the water with the most amount of heat?

- (1) W
- (3) Y

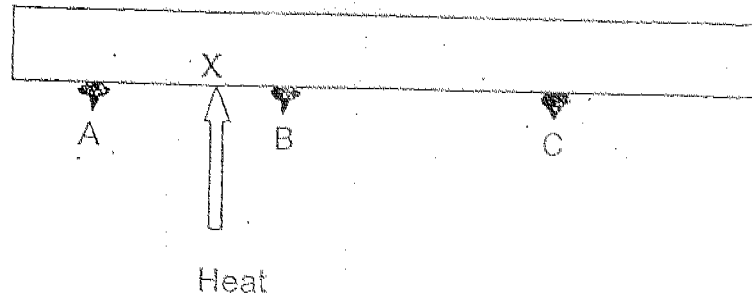
- (2) X
- (4) Z

(. . .)

12. Which one of the following diagrams shows the correct way of reading a laboratory thermometer?



13. Three thumbtacks, A, B and C, were attached to a thick metal rod with some wax as shown below. The rod was heated at point X

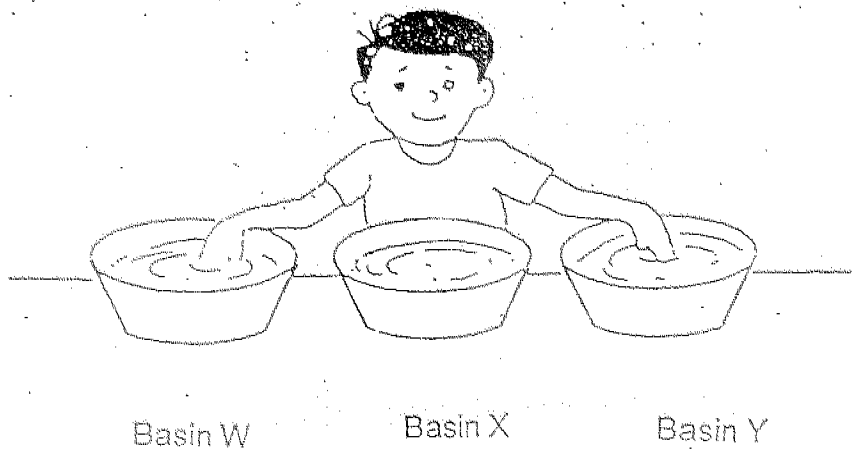


Which will be the likely order for the thumbtacks to drop from the metal rod?

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

()

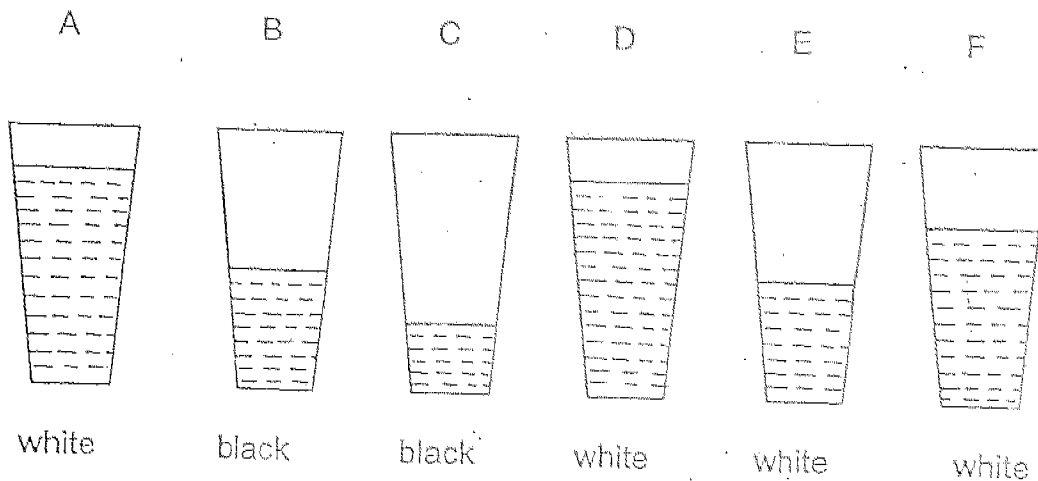
14. Three basins of water, W, X and Y were at different temperatures. Ah Huat dipped his right hand into Basin W and his left hand into Basin Y. Two minutes later he dipped both of his hands into Basin X. He found that the water in Basin X felt warm to his right hand but felt cold to his left hand.



Which one of the following shows the appropriate temperatures for the three basins above?

| | W | X | Y |
|-----|------|------|------|
| (1) | 80°C | 40°C | 10°C |
| (2) | 10°C | 40°C | 80°C |
| (3) | 10°C | 80°C | 40°C |
| (4) | 80°C | 10°C | 40°C |

15. Brandon wants to find out if white or black paper cups absorb heat faster. The cups below are of the same size and contain water of the same temperature.



Which one of the following pairs of cups should he use to conduct a fair test?

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

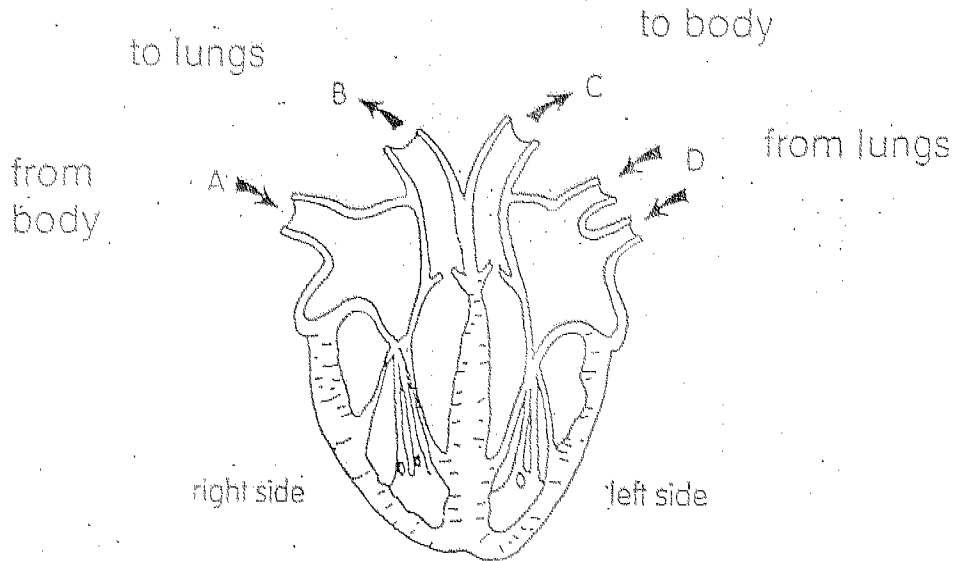
- (2) A and F
- (4) C and D

()

Section B (20 MARKS)

For questions 16 to 23, write your answers in this booklet

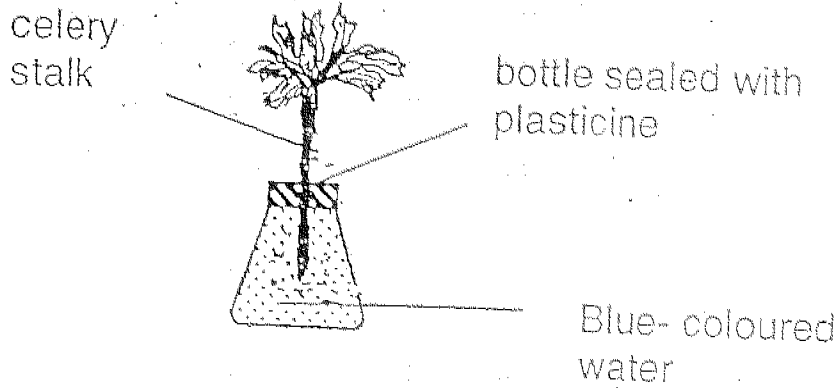
16. Refer to the diagram below.



(i) Which arrows above indicate blood that is rich in oxygen?(1m)

(ii) Which system in our body supplies us with oxygen continuously?(1m)

17. Ramadan carried out an experiment as shown below. He put blue coloured water in the flask and a celery stalk in it and sealed the flask with plasticine.



He observed the set-up above after two days.

(i) Name one observation he would make in the above set-up after two days. (1m)

(ii) Explain why the above mentioned change in 17(i) happened. (1m)

18a. Table 1 below shows the estimated daily amount of energy required by different age groups of people.

| Age of People | Average daily amount of energy required (Calories/day) |
|---------------|--------------------------------------------------------|
| 5-7 years | 1625 |
| 12-15 years | 2130 |
| 16-21 years | 2550 |

Table 1

(i) Based on the above table, what is the relationship between the age of a person and the average daily amount of energy required. (2m)

18b. Table 2 below shows the estimated daily amount of energy required by different groups of people.

| Groups of People | Average daily amount of energy required (Calories/day) |
|---------------------------------|--------------------------------------------------------|
| Girl 12-15 years | 2130 |
| Boy 12-15 years | 2500 |
| Office Worker 21-25 years | 2600 |
| Construction worker 21-25 years | 3400 |

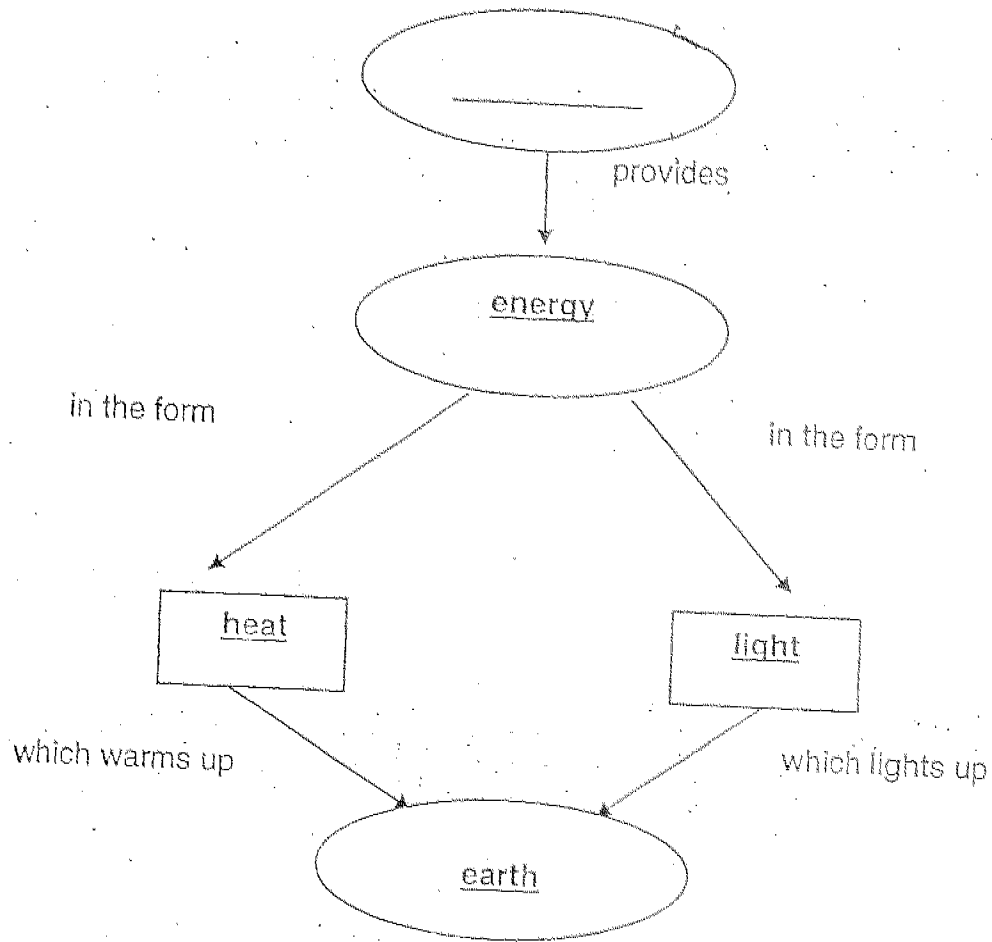
Table 2

(ii) Based on Table 2, other than age, name two factors that can affect a person's daily energy requirement. (2m)

Factor 1: _____

Factor 2: _____

19. Study the diagram below.



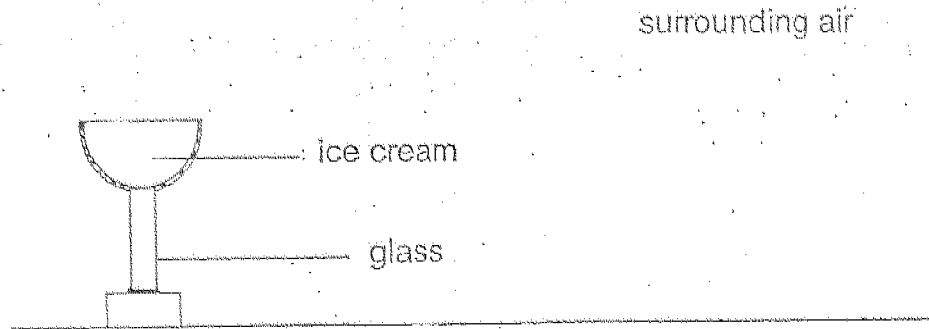
(a) Complete the diagram by writing an appropriate word in the oval above. (1m)

(b) Based on the diagram above,

(i) state one similarity between heat and light energy. (1m)

(ii) state the difference in function between light and heat energy. (1m)

20. The glass of ice-cream has just been removed from the freezer and placed at room temperature.



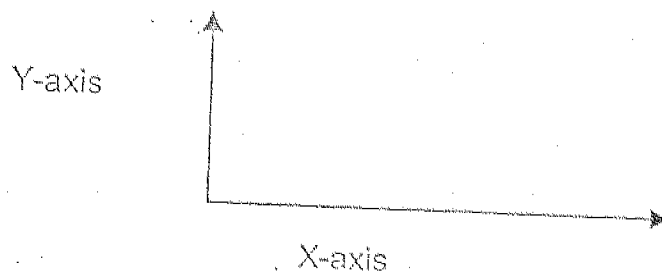
(i) Which object(s) has /have gained heat after 3 minutes?(1m)

(ii) Why did the heat travel in the above situation?(1m)

21. David tabulated the amount of calories present in certain food items in a table below.

| Food items | Amount of calories present |
|------------|----------------------------|
| C | 62 |
| D | 13 |
| E | 27 |
| F | 158 |

The data above can also be represented in a graph as shown below.



(i) Circle the type of graph which is more appropriate to represent the data above. (1m)

| | | |
|------------|----|-----------|
| LINE GRAPH | or | BAR GRAPH |
|------------|----|-----------|

(ii) Provide the name for the X and Y- axes. (2m)

(a) X-axis: _____

(b) Y-axis: _____

22. You have two cups made of different metals containing the same amount of coffee at 80°C .

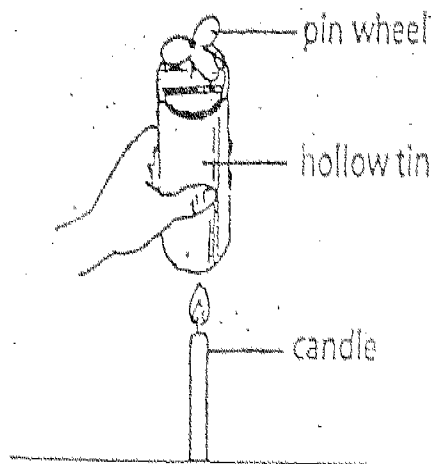
(i) If you want to find out which is the best cup to keep the coffee hot, which method of measurement is the best ?

Put a tick against the best method of measurement for the above investigation. (1m)

| | |
|--|-------------------------------------------------------------------------------|
| | Measure the amount of coffee left at the end of twenty minutes. |
| | Take a sip of coffee from the two cups at the end of twenty minutes. |
| | Measure the final temperature of coffee in the two cups after twenty minutes. |

(ii) What do we call materials that allow heat to flow through them easily? (1m)

23. A pinwheel is placed on a hollow tin in an experiment as shown. When a lighted candle is placed below the hollow tin, the pinwheel begins to spin.




(i) Name the source of energy used in the above experiment. (1m)

(ii) Name two forms of energy that are observed in the experiment above. (1m)

THE END

CAZ

- 1) 1
2) 2
3) 2
4) 3
5) 1
6) 3
7) 2
8) 4
9) 3
10) 4
11) 2
12) 2
13) 3
14) 2
15) 3
- 16) i) Arrows C and D
ii) The respiratory system.
- 17) i) The celery stalk will turn a bit blue.
ii) The plant used its xylem tubes to suck up the blue-coloured water to help the leaves to photosynthesize and provide water for the plant, and when it sucks it up, the blue-coloured water will make the plant blue.
- 18) a) The older the people are, the more average daily amount of energy required.
b) Gender
Occupation
- 19) a) The source of energy of heat and light is the sun.
b) Heat warms up the earth while light lights up the earth.
- 20) i) The ice-cream and the glass.
ii) Heat travels from a hotter place to a colder place and the ice cream and the glass are both colder than the temperature of the surrounding air so the heat travelled.
- 21) a) Food items
b) Amount of calories present.
- 22) i) 
ii) Conductors
- 23) i) Candle
ii) HEat
Light