RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT 2

2007

Your score out of 90 marks		
	Class	Lev
Highest score		
Average score		
Parent's signature		

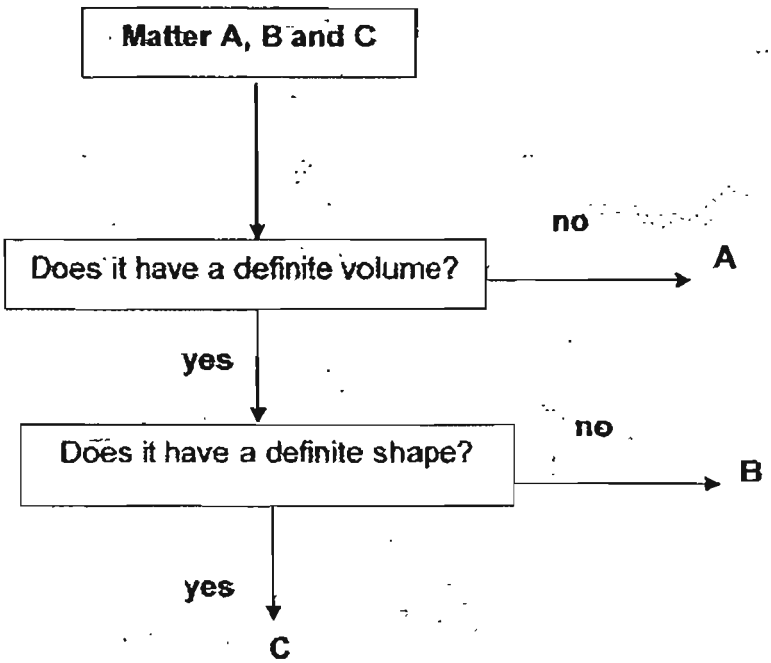
Name : _____ Index No.: ____ Class: P4 _____

25th October 2007 **SCIENCE** **ATT: 1 h 30 min**

SECTION A (25 x 2 marks)

For each question from 1 to 25, four options are given.
One of them is the correct answer. Make your choice (1, 2, 3 or 4).
Shade the correct oval on the Optical Answer Sheet (OAS) provided.

1. The chart below shows matter A, B and C at room temperature.



Which one of the following represents correctly matter A, B and C?

	A	B	C
(1)	rainwater	stone	oxygen
(2)	air	rainwater	sand
(3)	stone	light	air
(4)	oxygen	air	shadow

2. The following is a series of steps (**NOT** arranged in order) to find the volume of a stone.

A Record the volume of the water in the measuring cylinder.
B Record the volume of the water and the stone.
C Pour some water into a measuring cylinder.
D Find the difference between the two volumes.
E Lower the stone fully into the water in the measuring cylinder.

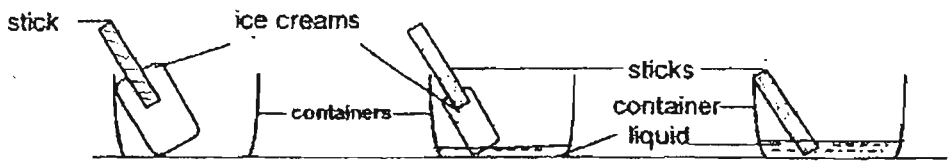
Arrange the series of steps in order so as to find out the volume of the stone.

	1st step → last step				
(1)	C	E	B	A	D
(2)	C	B	E	A	D
(3)	C	A	B	D	E
(4)	C	A	E	B	D

3. After a heavy downpour, the roads dried up after some time.
This resulted from _____.

(1) the formation of clouds in the sky
(2) the evaporation of water on the roads
(3) the condensation of water vapour in the sky
(4) the evaporation of water in the nearby drains

4. The diagrams below show the stages involved for an ice cream to become a liquid.



Stage A **Stage B** **Stage C**

Based on the information above, which one of the following statements is **CORRECT**?

(1) The container gains heat from the ice cream.
(2) The container loses heat to the surrounding air.
(3) The ice cream loses heat to the surrounding air.
(4) The ice cream gains heat from the surrounding air.

5. The water cycle is important because it _____.

A prevents water pollution
B provides energy for all animals
C ensures a constant supply of fresh water

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

6. Which of the following can cause water pollution?

A oil spills
B littering and dumping
C deforestation and soil erosion
D disposal of toxic waste by factories

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

7. Respiration is a process whereby Gas A is taken in and Gas B is released.

Which one of the following shows correctly the gases, A and B, involved in the process?

	Gas A	Gas B
(1)	oxygen	carbon dioxide
(2)	carbon dioxide	oxygen
(3)	oxygen	nitrogen
(4)	nitrogen	carbon dioxide

8. While playing a game of basketball, Susan noticed that she was breathing faster.

Which one of the following statements best explains the increase in Susan's breathing rate?

(1) Her lungs needed more energy.
(2) Her legs were starting to get cramps.
(3) Her muscles were producing more heat.
(4) Her heart was pumping more oxygen to her body.

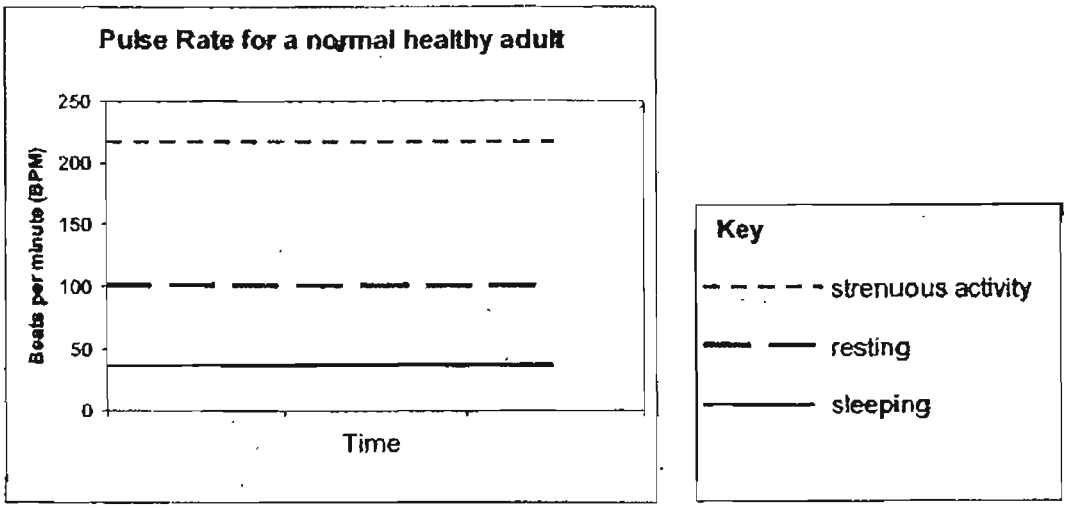
9. Which of the following substances is / are transported by our blood?

A water
B oxygen
C nutrients
D carbon dioxide

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

10. Linda's teacher gave her **Graph 1** (as shown below), which showed the pulse rates for different types of activities, to understand how the pulse rate for a normal healthy adult is dependent on the type of activity that he is engaged in.

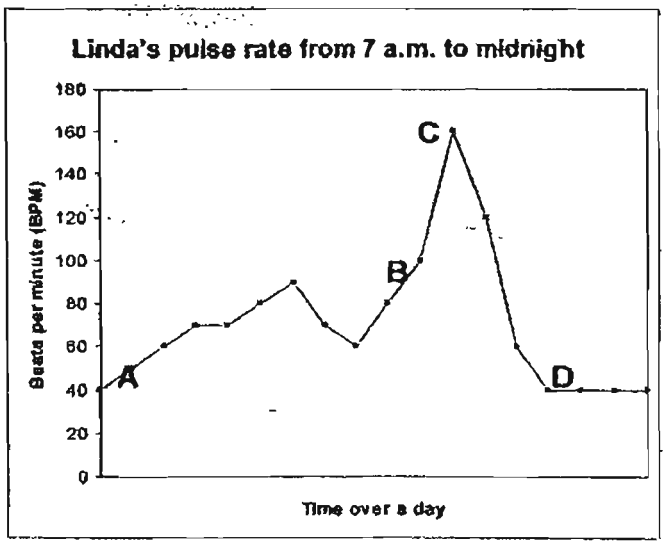
Graph 1



Linda decided to carry out some activities and record the number of her heartbeats per minute for each activity that she was involved in.

Based on her findings, Linda plotted **Graph 2** as shown below.

Graph 2



Which one of the following set of activities carried out by Linda matches **Graph 2** most accurately?

	A	B	C	D
(1)	resting	jogging	resting	running
(2)	sleeping	resting	resting	running
(3)	resting	resting	jogging	resting
(4)	sleeping	resting	jogging	sleeping

11. Which one of the following statements is **NOT** true of the Sun's energy?

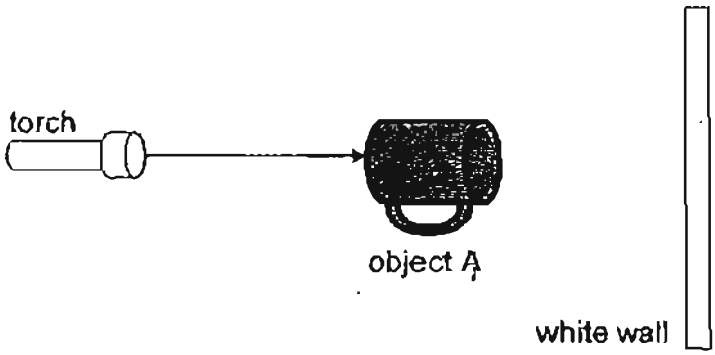
(1) It lights up the earth.
(2) It enables plants to grow.
(3) It provides the earth with heat only.
(4) It affects weather conditions and enables water cycle to take place.

12. We are able to see clear water because it _____ .

A gives off its own light
B reflects some light into our eyes
C allows some light to pass through
D does not allow any light to pass through

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

13. Kumar used a lighted torch to shine at object A in the direction as shown below. He noticed that a shadow of the object A was formed on the white wall.



Which one of the following shadows of the object A did Kumar see on the white wall?

(1) 

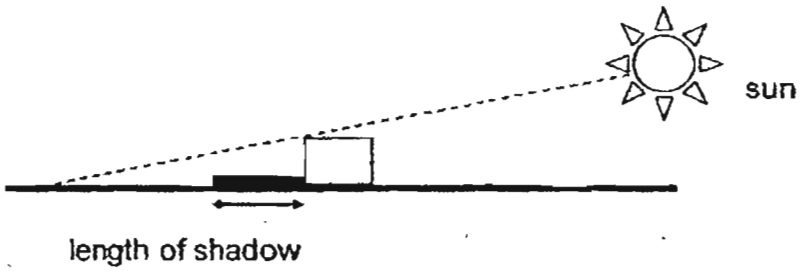
(2) 

(3) 

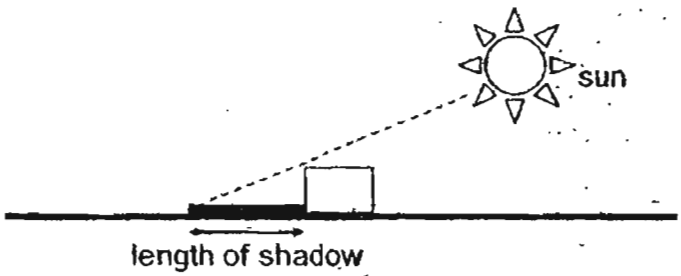
(4) 

14. Which one of the following shows the correct location and length of the shadow of the object in relation to the position of the Sun?

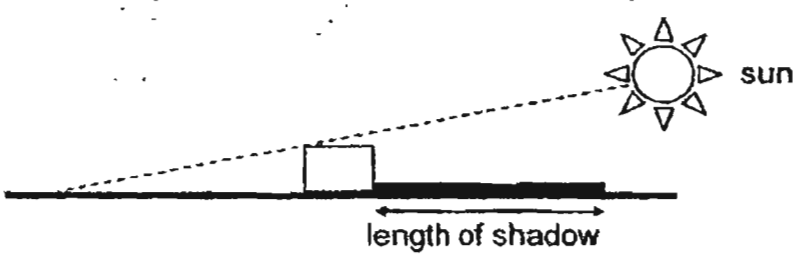
(1)



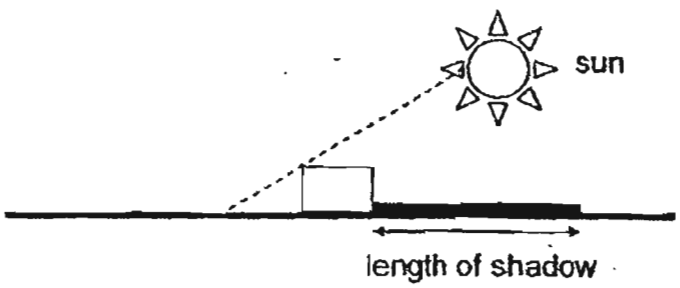
(2)



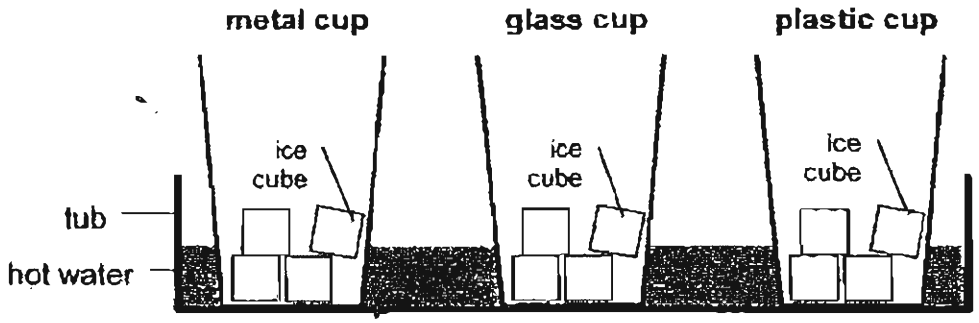
(3)



(4)



15. Janet set up an experiment using the apparatus shown below. Each cup had the same number of ice cubes. The cups were placed in a tub of hot water.



Janet recorded the time taken for the ice cubes to melt completely in each cup.

material of cup	metal	glass	plastic
Time taken (minutes)	15	35	22

The aim of Janet's experiment was _____.

(1) to show that hot water loses heat to the ice
(2) to compare how well each cup conducts heat
(3) to show that water is a bad conductor of heat
(4) to show that ice melts at a temperature greater than 0°C

16. Harry took a can of drink from the refrigerator. He noticed that the can of drink felt very cold.

Which one of the following explains correctly Harry's observation?

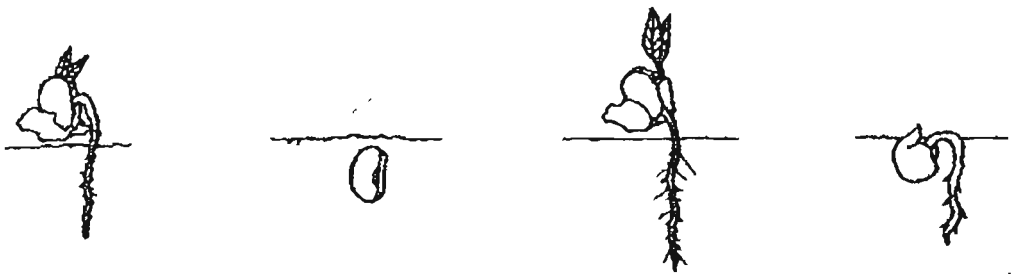
(1) Harry's hand gained heat from the surroundings.
(2) Harry's hand transferred heat to the can of drink.
(3) Harry's hand gained coldness from the surroundings.
(4) Harry's hand gained coldness from the can of cold drink.

17. When water vapour in the air loses heat, _____.

A it cools down
B clouds are formed
C it evaporates faster
D condensation takes place

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

18. The diagrams below show the different stages involved in the life cycle of a plant.



A B C D

Which one of the following shows the correct order of the stages of growth of the plant?

	1st stage →			4th stage
(1)	A	B	C	D
(2)	B	D	A	C
(3)	C	A	D	B
(4)	D	C	B	A

19. The table below shows the different functions of the various parts of a plant.

Part of plant	Function(s)
A	supports the branches and leaves
B	absorb water and mineral salts from the soil
C	transports food, water and mineral salts to all parts of the plant
D	holds the plant firmly to the ground
E	makes food for the plant
F	contains and protects the seeds

Which one of the following matches correctly the part(s) of a plant to the function(s) that it performs / they perform?

	Part(s) of the plant	Function(s) performed
(1)	stem	A and C
(2)	leaf	C and E
(3)	fruit	E and F
(4)	roots (in the soil)	B, D and E

20. Mary examined an object and wrote the following descriptions:

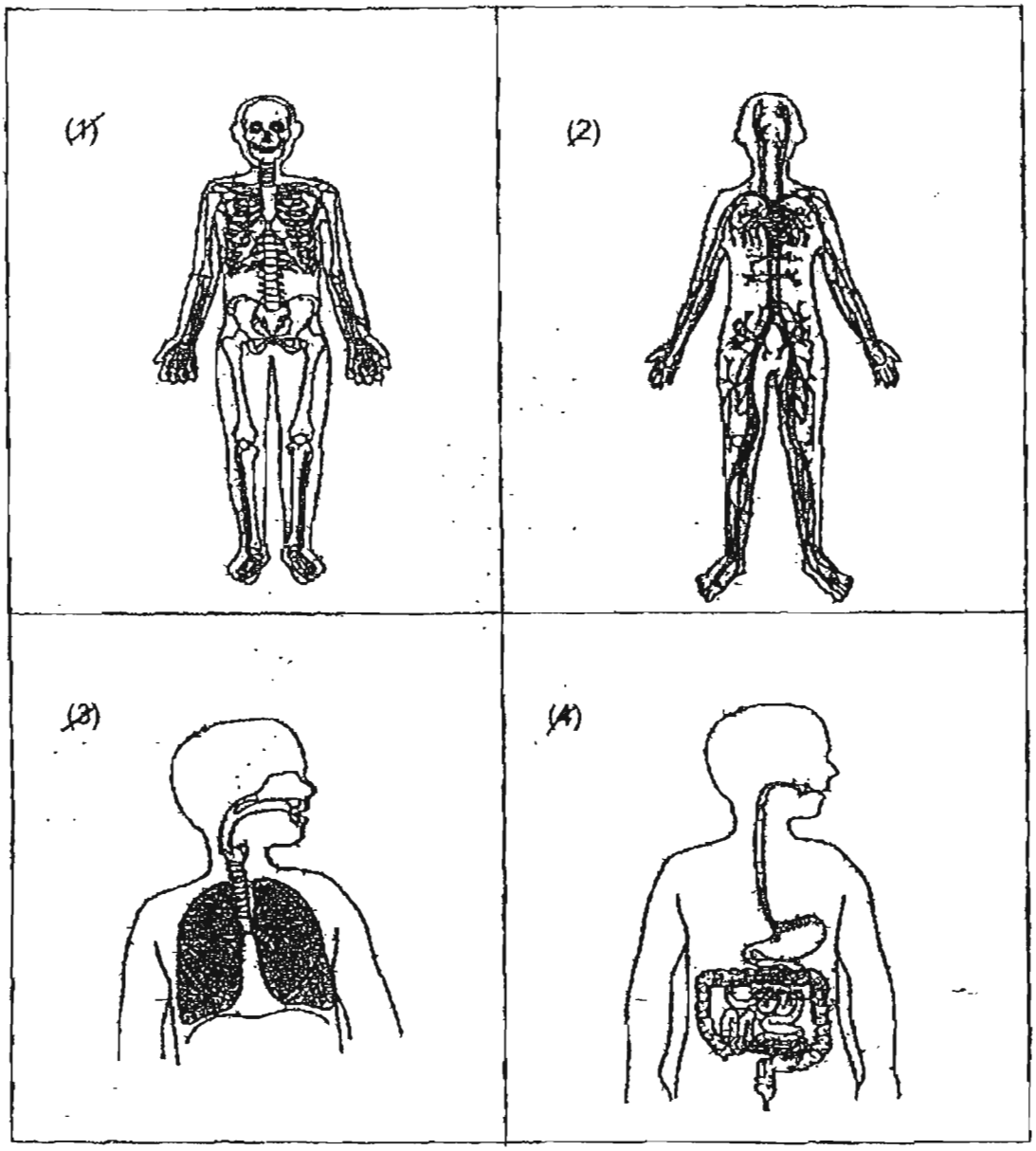
- It is rough and red.
- It makes a loud sound when it is dropped onto the floor.

Which of the following senses did Mary use to help her describe the object?

A sight
B taste
C touch
D hearing

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

21. The diagrams below show the different body systems of a man.



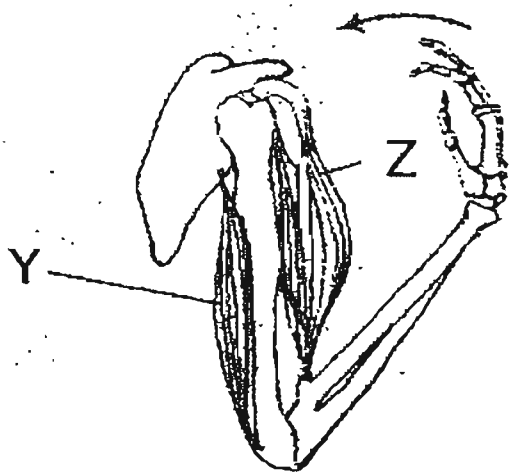
Which one of the systems shown above helps to break down the food that a man eats into simple substances?

22. Which of the following statements are **CORRECT**?

A Food moves down the gullet into the small intestine.
B Undigested food is passed out as faeces through the anus.
C Most of the water from undigested food is absorbed in the large intestine.

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

23. Tim bent his arm at his elbow as shown in the diagram below.

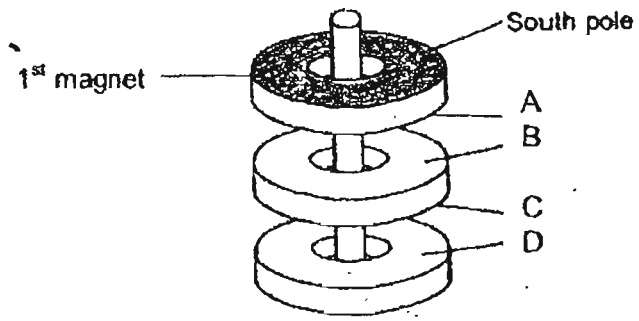


What happened to Tim's muscles, Y and Z, when he bent his arm?

A Muscles Z moved but not muscles Y.
B Muscles Y and Z worked at the same time.
C Muscles Y contracted while muscles Z relaxed.
D Muscles Y relaxed while muscles Z contracted.

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

24. A, B, C and D are poles of different ring magnets. Siew May noticed that the 3 ring magnets float above one another as shown below.



Siew May knew that the shaded part of the 1st magnet is the South pole.

What can Siew May conclude about the poles of the other ring magnets?

	A	B	C	D
(1)	South pole	North pole	South pole	North pole
(2)	South pole	South pole	North pole	North pole
(3)	North pole	North pole	South pole	South pole
(4)	North pole	South pole	North pole	South pole

25. A bar magnet with 4 equal parts, A, B, C and D, is placed in a box of paper clips.

The bar magnet is removed from the box of paper clips. A number of paper clips is found attracted to different parts of the magnet. The results are recorded in the table below.

Part of magnet	Number of paper clips it attracted
A	3
B	9
C	2
D	10

The poles of the bar magnet are parts _____.

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

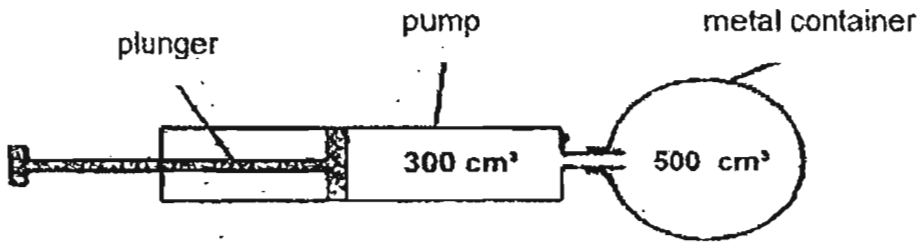
Name :_____ Index No: ____ Class: P4___ 40

SECTION B (40 marks)

For questions 26 to 41, write your answers clearly in the spaces provided.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

26. The diagram below shows a metal container with 500 cm^3 of air attached to a pump containing 300 cm^3 of air.



Based on the diagram above, answer the following questions:

(a) What is the volume of the air in the metal container when the plunger is pushed **ONCE** all the way in? [1]

(b) Name **TWO** properties of air that are shown above. [2]

Property 1	
Property 2	

27. (a) Why is the water cycle important to us? [1]

_____

_____

_____

(b) Fill in each blank with a suitable word. [3]

Water vapour rises into the sky as a result of _____ of water in sources such as the lakes, reservoirs and ponds. _____ of the water vapour in the sky results in the formation of _____ which become heavy and fall as rain.

28. The table below shows some activities in which water is used.

(a) Put a tick (√) in the correct box below to show that water is conserved in the following activities: [2]

	Activities	Water is conserved
(i)	brushing my teeth with a cup	
(ii)	washing a car with a water hose	
(iii)	washing my face under a running tap	
(iv)	collecting rainwater to clean the toilets	

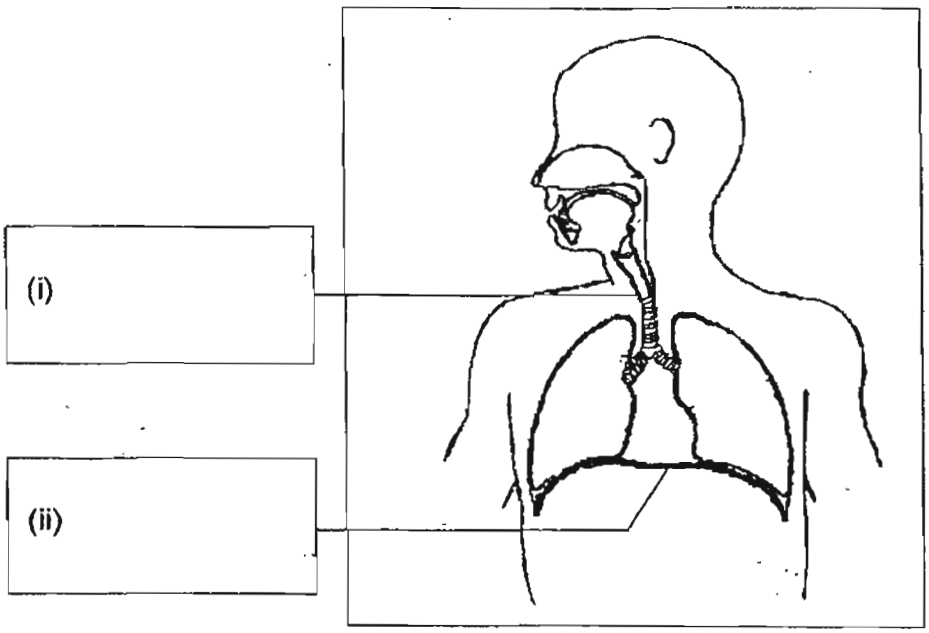
(b) Name **ANOTHER** activity in which water can be conserved. [1]

_____

_____

29. The diagram below shows parts of the respiratory system of a man.

(a) Name the parts of the system by filling in the boxes provided below. [1]



(b) Give **ONE** difference between part (i) in the diagram above and the gullet. [1]

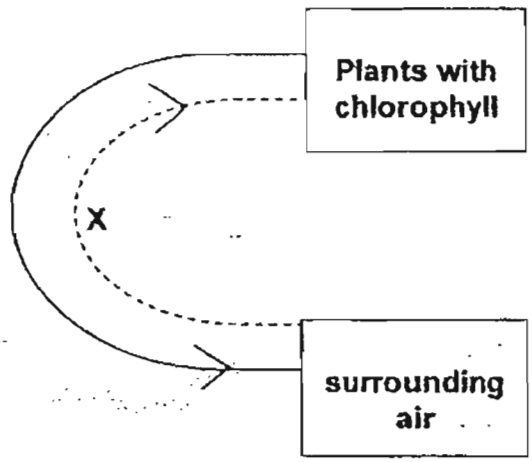
30. Annie has two potted plants placed at the corner of her living room. Before she goes to bed every night, she switches off all the lights.

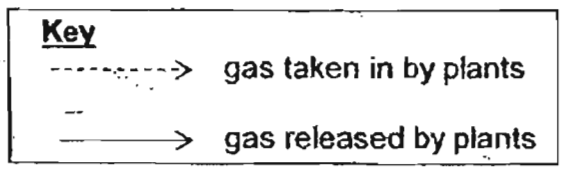
Based on the information above, answer the following question:

(a) What process takes place in Annie's potted plants during the night? [1]

_____

The diagram below shows the exchange of gases that takes place in the plants in the absence of light.





(b) Name the gas, X, in the diagram above. [1]

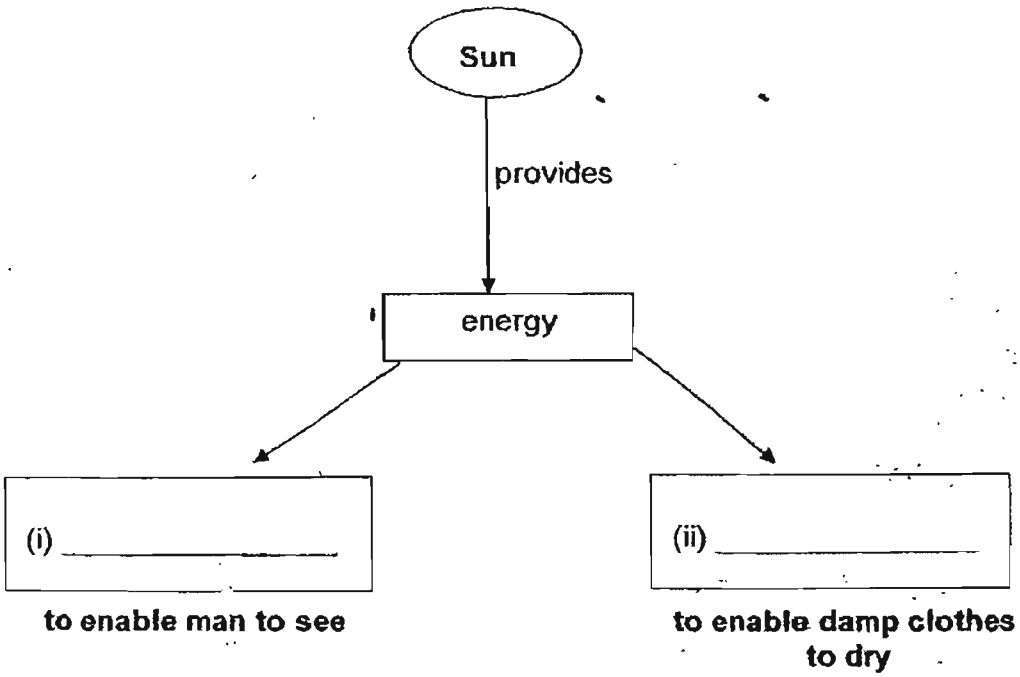
_____

31. The table below shows some parts of the systems found in a man and their functions.

Complete the table below by writing down the system from which the part(s) of the body are from and state its/ their respective function.
The first one is done for you. [4]

	system	part(s)	function
(a)	skeletal	ribs	protect the heart
(b)		lungs	
(c)		heart	

32. The diagram below shows part of the concept map of energy.



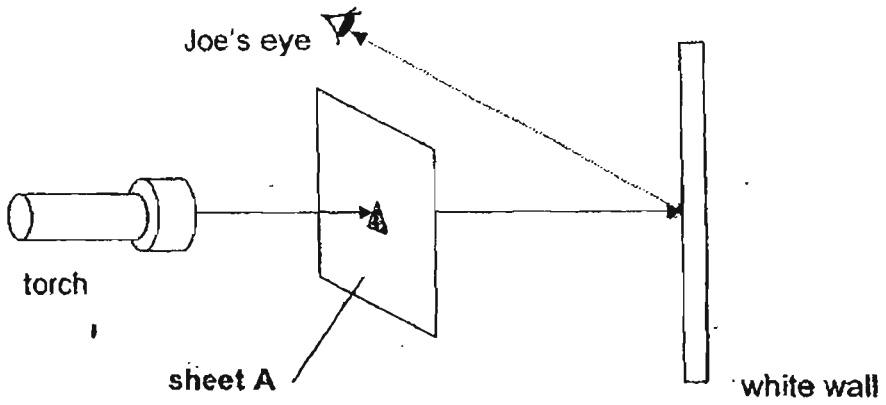
(a) Complete the diagram above by filling in the boxes with suitable word(s). [1]

(b) State **ANOTHER** use of the energy from the Sun. [1]

_____

_____

33. Joe carried out an experiment in a dark room using the apparatus as shown below.



Joe placed sheet A between the lighted torch and the white wall in a straight line. He saw a dark square shadow with a bright triangular patch of light on the wall.

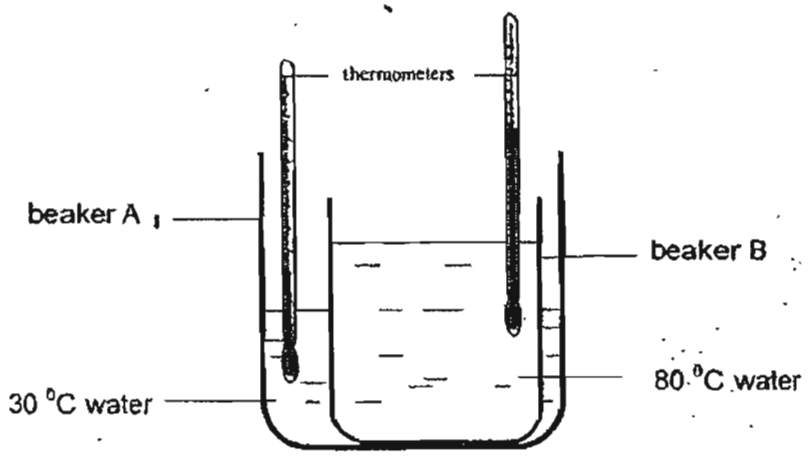
(a) Describe **ONE** property of the material of sheet A. [1]

Sheet	Property of material
A	

(b) What happens to the bright triangular patch of light on the white wall when Joe moves the lighted torch gradually away from sheet A?
(The torch remains in a straight line as the sheet A and the white wall.)
[1]

34. Jamie conducted an experiment for 3 minutes using the apparatus as shown below to find out how heat travels.

The experiment was conducted in a room with a temperature of 28°C.

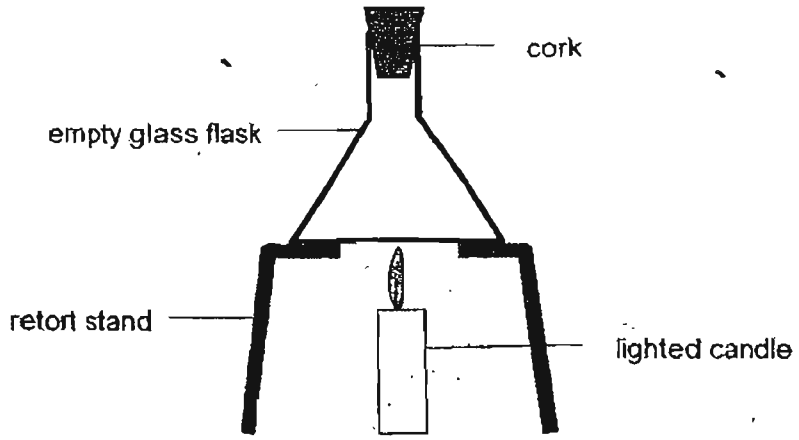


Based on the information above, answer the following questions:

(a) What would happen to the temperature of the water in **BOTH** beakers A and B after 3 minutes? [1]

(b) What could Jamie conclude at the end of her experiment? [1]

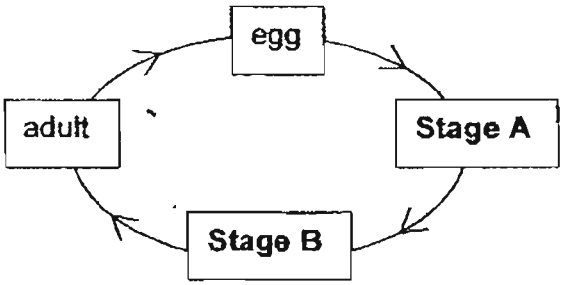
35. Siti placed a cork and stuck it gently at the mouth of an empty glass flask. Then she placed a lighted candle at the base of the flask as shown below.



Based on the information above, what would Siti observe of the cork after some time?

Explain your answer. [2]

36. The diagram below shows the different stages in the life cycle of a butterfly.

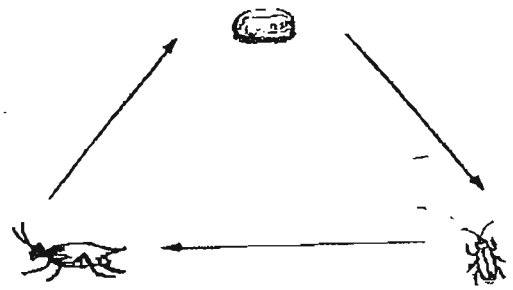


Based on the information below, answer the following questions:

(a) Name the stages, A and B, of the life cycle. [1]

Stage	
A	
B	

Kimmie drew the different stages that take place in the life cycle of a cockroach as shown below.

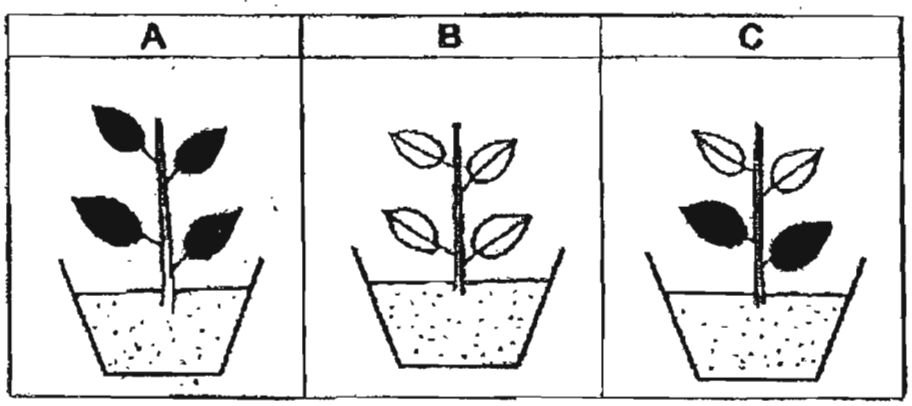


(b) Compare the life cycle of the cockroach with that of a butterfly. Name **TWO** differences between **BOTH** life cycles. [2]

Difference 1	
Difference 2	

37. Tom used 3 pots of identical plants, A, B and C.

He set up an experiment using black papers to cover the leaves of plants A and C as shown below.



Tom placed the pots of plants, A, B and C, in an open field for a week.

Based on the information above, answer the following questions:

Which pot of plant, A, B or C, is most likely to be the healthiest?

Explain your answer. [2]

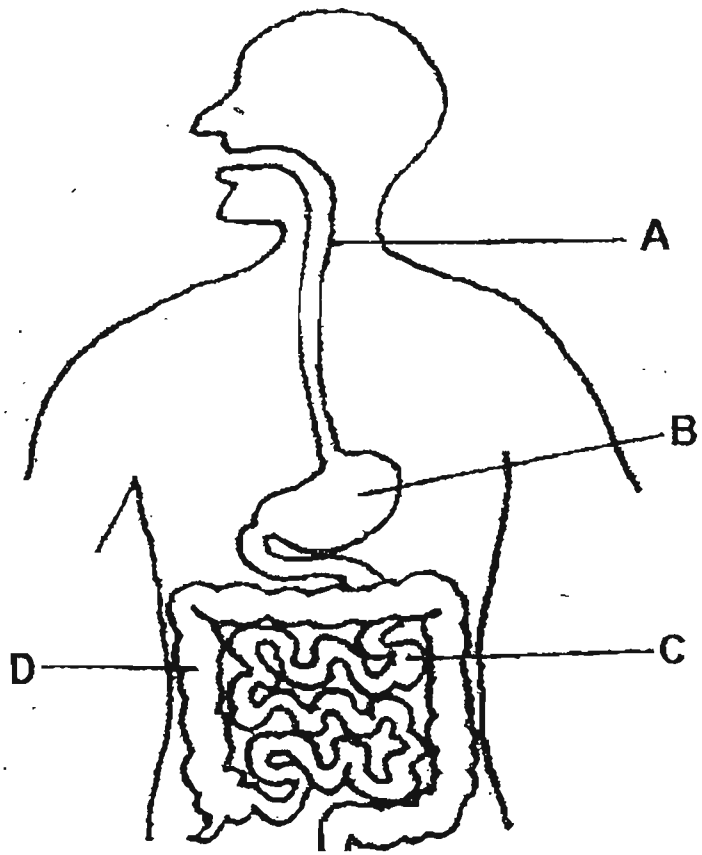
Pot _____

38. Linda used some of her sense organs in the following situations.

Write down the sense organ(s) which Linda used in each situation. [2]

	Situation	sense/organ(s)
(a)	"The television programme is so funny."	
(b)	"This cup of coffee is sweet."	
(c)	"The red flowers give a more pleasant scent than the yellow ones."	
(d)	"This piece of music is soothing."	

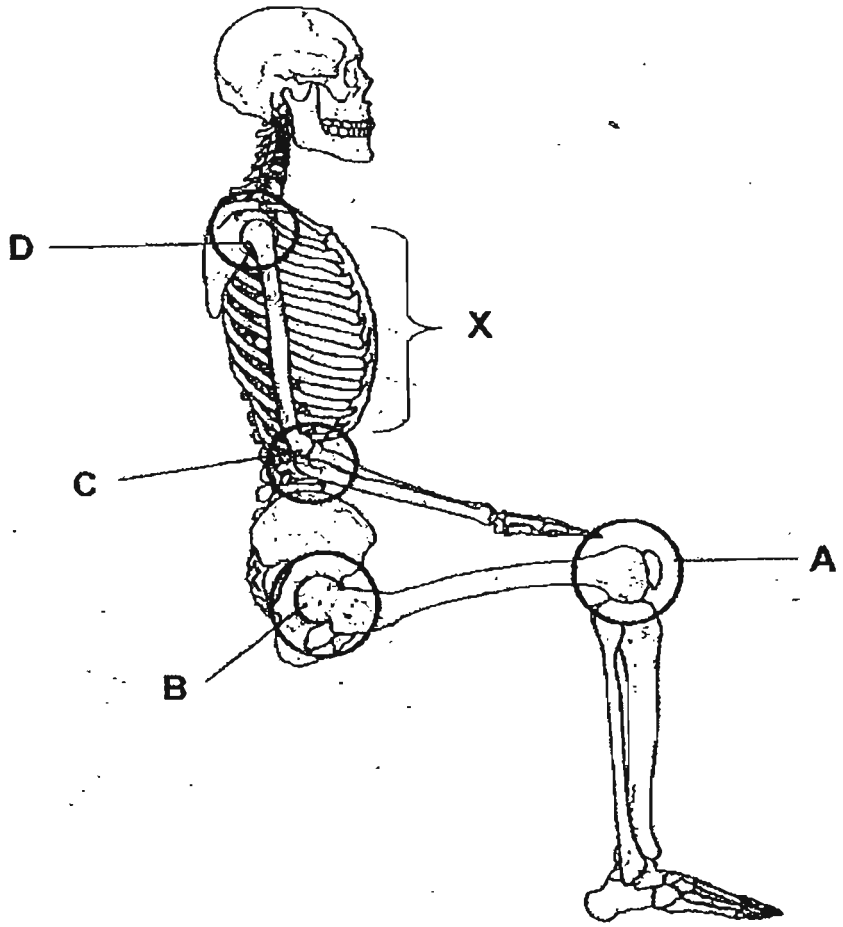
39. The diagram below shows parts of the digestive system of a man.



Based on the diagram above, complete the table below by naming the following parts: [2]

	Part of the digestive system
A	
B	
C	
D	

40. The diagram below shows parts of the skeletal system of a man.



Based on the diagram above, answer the following questions:

(a) Name the part(s) where the following joints are found. Write letters, A, B, C or D, only. [2]

	Joints	Part(s)
(i)	hinge	
(ii)	ball and socket	

(b) Describe how X moves when the man inhales. [1]

41. Jane set up an experiment using five thin sheets (each made of a different material), a string and a needle.

She identified the materials of the sheets as follows:

iron	paper	glass	steel	aluminium

Jane placed a thin sheet **ONE** at a time between the bar magnet and the needle hung from a string.

She observed that when the thin sheet of iron and steel was placed **ONE** at a time between the magnet and the needle, the needle did **NOT** move as shown in **Diagram 1** below.

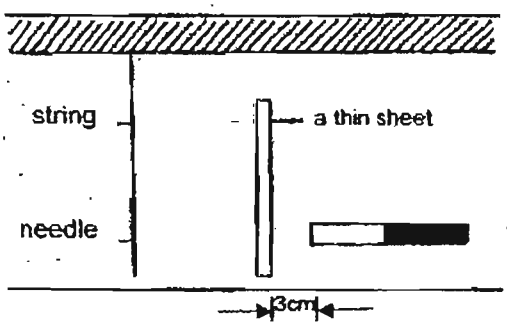


Diagram 1

However, when Jane placed the thin sheet of glass, paper and aluminium **ONE** at a time between the magnet and the needle, the needle moved towards the magnet as shown in **Diagram 2** below.

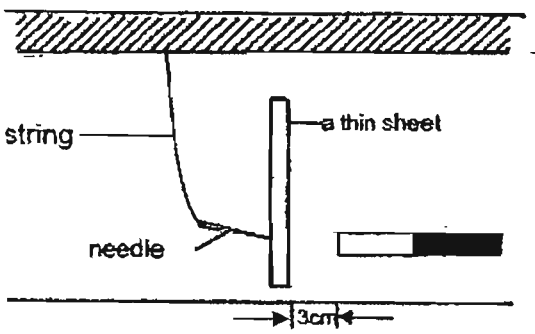


Diagram 2

Based on her observations, Jane tabulated the materials used in a table as shown below.

the needle did not move	the needle moved
iron steel	glass paper aluminium

(a) Name **ONE** common property of those materials which did **NOT** cause the needle to move. [1]

_____

_____

_____

(b) From Jane's experiment, she can deduce that the force of magnetism can pass through _____ materials. [1]

- END OF PAPER -

Setters: Mr Ronald Lee
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ANSWER SHEET

RAFFLES GIRLS' PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 2
2. 4
3. 2
4. 4
5. 1
6. 4
7. 1
8. 4
9. 4
10. 4
11. 3
12. 2
13. 3
14. 2
15. 2
16. 4
17. 4
18. 2
19. 1
20. 3
21. 4
22. 3
23. 3
24. 3
25. 4

26) 500cm3
b) 1) Air can be compressed.
2) Air does not have definite volume.

27) a) It ensures a continuous supply of fresh water for the survival of plant, living things.
b) evaporation. Condensation, clouds

28) a) i) ✓ iv) ✓
b) Take a shower instead of a bath.

29) a) i) windpipe ii) diaphragm
b) Windpipe is used to trap dust from the air we breath in and pass the air to the lungs which is used in respiratory system while gullet is just to transport digested food to stomach which is used in the digestive system.

30) a) respiration.
b) Oxygen.

31) b) function, Allow the exchange of oxygen and carbon dioxide to take place.
c) circulatory, Pump blood rich in oxygen to all party of the body.

32)a)i)light ii)heat
b)Light energy from the Sun enables plants to make food.

33)a)A: Does not allow light to pass through.
b)The bright triangular patch of light on the white wall would become smaller and brighter while the dark square shadow would become smaller and darker.

34)a)The temperature of water in beaker A would rise while temperature of water in beaker B would fall.
b)Heat travels from a hotter place to a colder place.

35)The air in the flask gains heat and expands.

36)a)A: larva B: pupa
b)1)The life cycle of a cockroach has 3 stages but the life cycle of a butterfly has 4 stages.
ii)The young of the butterfly does not resemble the adult while the young of the cockroach resembles the adult.

37)Pot B.
Plant B can photosynthesis but plant A and C were covered with black papers which cannot photosynthesis.

38)a)ears b)tongue c)nose and eyes d)ear

39)A:gullet B):stomach
C:small intestine D:large intestine

40)a)i)A and C ii)B and D
b)When the man inhales X move outwards and upwards.

41)a)They are magnetic objects which allows magnets to attract but not letting the magnetism to pass through.
b)non-magnetic.