

SAL

**METHODIST GIRLS' SCHOOL ( PRIMARY )  
END OF YEAR EXAMINATION  
PRIMARY FOUR , 2005**

**SCIENCE**  
**BOOKLET A**

NAME : \_\_\_\_\_ ( )

CLASS : \_\_\_\_\_

METHODIST GIRLS' SCHOOL (PRIMARY)  
 END OF YEAR EXAMINATION  
 PRIMARY 4 SCIENCE, 2005

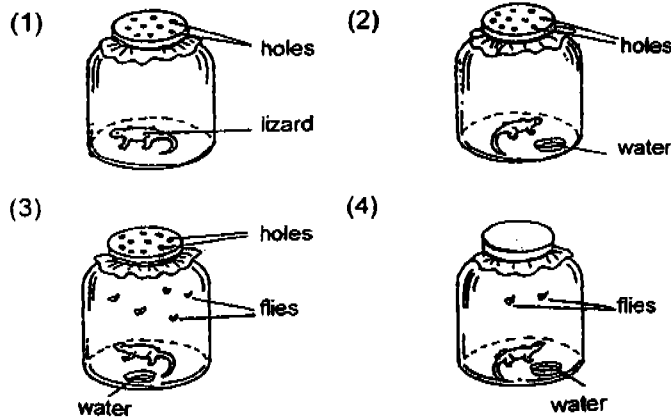
NAME : \_\_\_\_\_

DATE : \_\_\_\_\_

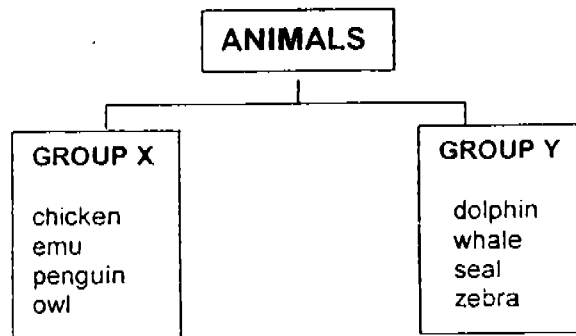
SECTION A : (60 marks )

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

1. Su Ling placed a lizard in each of the four bottles with different living conditions. In which one of the bottles would the lizard still be alive after three days?



2. The classification diagram below shows two groups of animals.

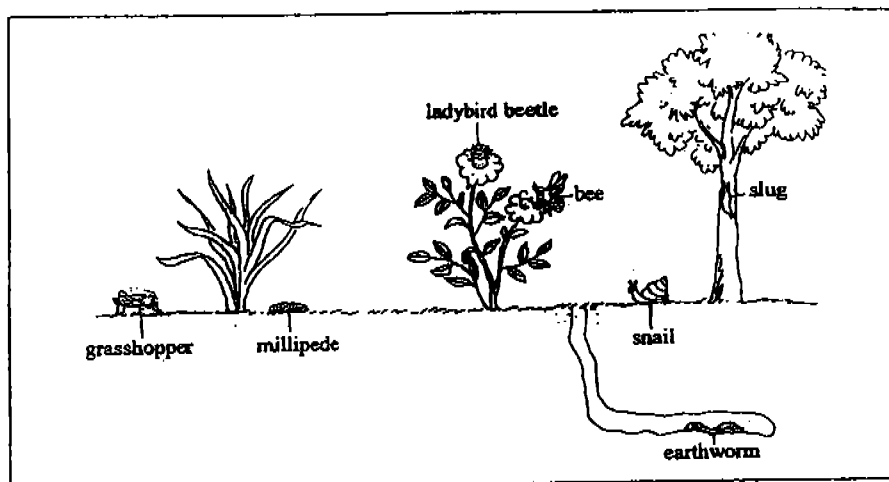


Which one of the following animals belong to Group Y?

- (1) bat
- (2) catfish
- (3) guppy
- (4) ostrich

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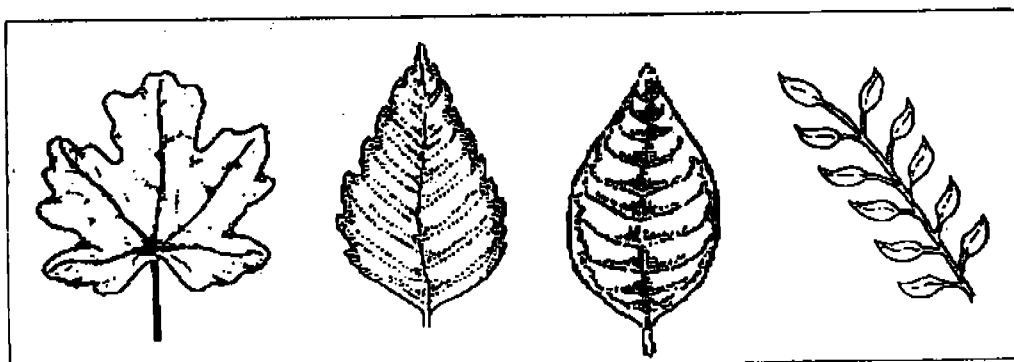
3. The picture below shows a number of animals that can be found in a garden.



How many of these animals can move about in more than one way?

- (1) 1
- (2) 3
- (3) 5
- (4) 7

4.

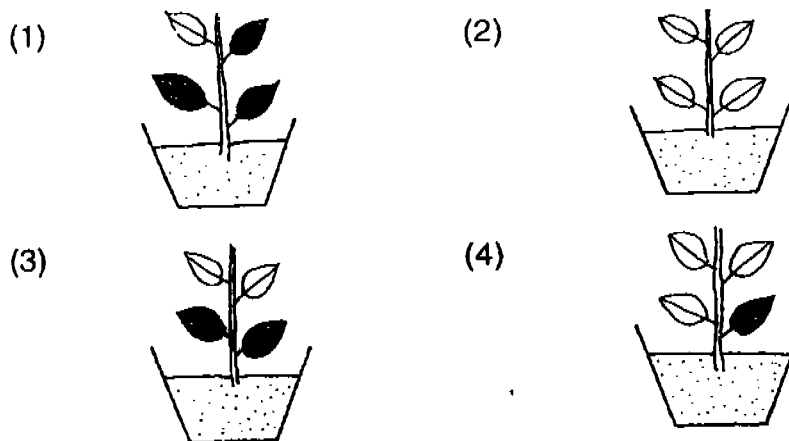


Which one of the following descriptions matches the leaves above?

	A	B	C	D
(1)	entire-edged	compound	toothed-edged	lobed-edged
(2)	compound	toothed-edged	lobed-edged	entire-edged
(3)	entire-edged	lobed-edged	compound	tooth-edged
(4)	lobed-edged	toothed-edged	entire-edged	compound

Go to page 3

(5) The shaded leaves on the plants are covered with black papers and the plants are then put in the sunlight.



Which one of the above plants will be able to make the most amount of food?

6.

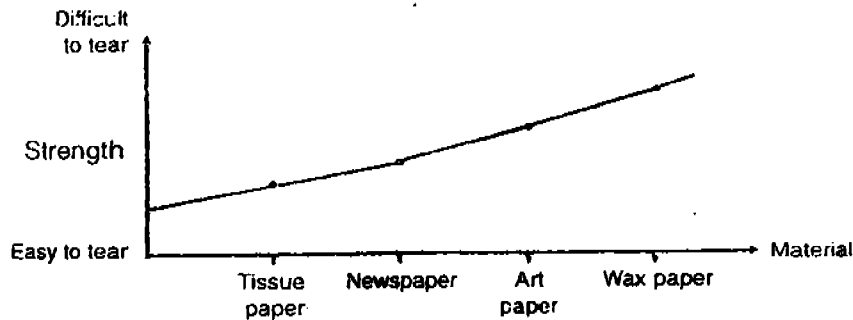


Which set of the following statements shows the similarity and difference between the above living things?

	Similarity	Difference
(1)	Both A and B have roots.	A has leaves while B does not.
(2)	Both A and B reproduce by spores.	A can make its own food while B cannot.
(3)	Both A and B reproduce by seeds	A contains chlorophyll while B does not.
(4)	Both A and B are living things.	A can respond to changes while B cannot.

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7. The graph shows the strengths of 4 different types of paper.



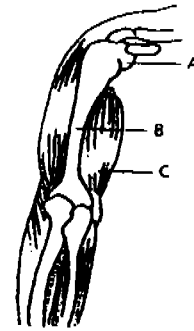
Which one is considered to be the toughest?

- (1) Art paper
  - (2) Newspaper
  - (3) Tissue paper
  - (4) Wax paper
8. Arrange the following in the correct order.
- A : Raine smells the roses.  
B : The nerves carry the information from her eyes to her brain.  
C : Raine's brain sends a message for her to smell the roses.  
D : Raine sees the roses.  
E : Raine's brain tells her that she is looking at a rose plant and decides to smell them.
- (1) A, B, C, D, E
  - (2) C, A, B, E, D
  - (3) D, B, E, C, A
  - (4) D, E, C, A, B
9. Food is pushed down the gullet by muscular \_\_\_\_\_ of the gullet.
- (1) expansion
  - (2) relaxation
  - (3) contraction and relaxation
  - (4) expansion and relaxation.









Go to page 5

10. The diagram below shows the upper arm with its muscles. Which of the following shows correctly the parts labelled?

	Joint	Bone	Muscle
(1)	B	A	C
(2)	B	C	A
(3)	A	B	C
(4)	A	C	B



11. The diagram below shows the furthest distance between the paper clips and each of the magnets at which they can attract the paper clips.

	 Magnet A
	 Magnet B
	 Magnet C
	 Magnet D

Which one of the magnet is the strongest?

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

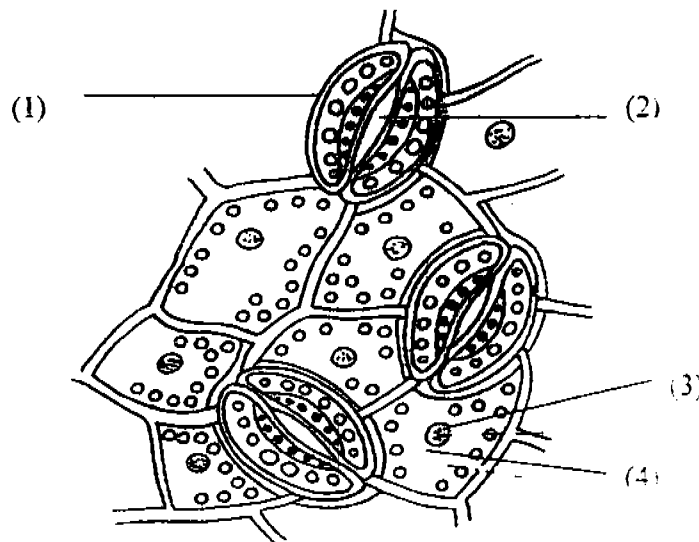
Go to page 6

12. Sam was playing with a bar magnet. He was careless and dropped the magnet and it broke into two. What will happen to the magnet now?
- (1) The bar magnet will be of no use.
  - (2) The bar magnet will gain strength.
  - (3) Each piece of the bar magnet will become a magnet itself.
  - (4) One half will become the North pole and the other will become the South pole.
13. To test whether an unconscious person is breathing, a mirror is sometimes used. The mirror is usually placed near the person's mouth to see if the person is breathing. How is this possible?

The mirror \_\_\_\_\_

- (1) helps in checking to see if the person's windpipe is blocked.
- (2) is used to reflect light to the person's eyes to wake him up.
- (3) helps form an air passage for more oxygen to enter the lungs.
- (4) helps to condense the water vapour that comes out of the person's lungs.

14.



The diagram above shows the underside of a leaf. Which part helps the plant to exchange gases with the surroundings?

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15. What is the process described below and where does it take place in a plant?

	Needed
Carbon dioxide	
Water	
Sunlight	

	Process	Takes place in
(1)	Respiration	Stem
(2)	Respiration	Leaves
(3)	Photosynthesis	Flowers
(4)	Photosynthesis	Leaves

16. Carbon dioxide gas is known to trap the sun's heat in the Earth's atmosphere, preventing the heat from escaping into space. When there is a lot of carbon dioxide gas in the atmosphere, it can result in warming the earth. This phenomenon is known as Global Warming. Which of the following activities will contribute to the global warming effect?

- (1) Restrict the use of motor vehicles on the road.
- (2) Clearing the forests to obtain more land for human activities.
- (3) Use solar energy instead of fossil fuel to produce electricity
- (4) Grow more trees and green plants to beautify the environment.

17. Boxes A, B and C describe the 3 states of matter.

A
Definite volume, no definite shape

B
Definite volume, definite shape

C
No definite volume, no definite shape

The changes in the state of water are shown below.

Water → Steam → Water → Ice

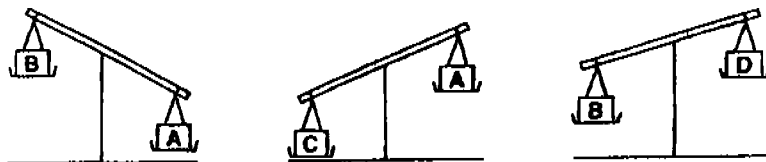
Use A, B and C to represent the above changes.

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

Go to page 8



18.



Study the diagrams above. The four objects A, B, C and D are of the same size. The order of the objects from the lightest to the heaviest is \_\_\_\_\_.

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

19. What happens when a block of ice is melting?

- (A) There is a change in temperature.
- (B) There is a change in state.
- (C) There is a change in volume.
- (D) There is a change in mass.

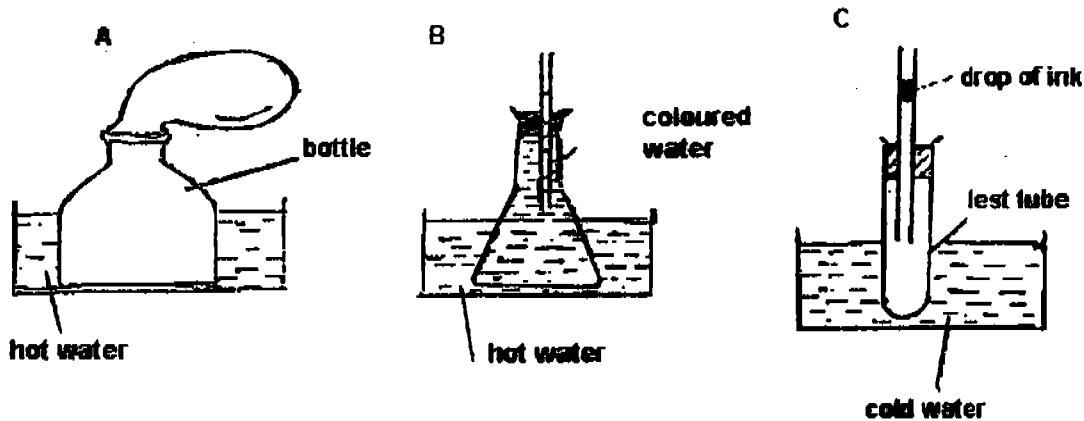
- (1) A and B
- (2) B only
- (3) B and C
- (4) All of the above

20. The following processes make use of evaporation except \_\_\_\_\_.

- (1) hanging wet clothes out in the open
- (2) using a hair dryer to blow damp hair
- (3) letting a puddle of water dry up
- (4) heating up water to make coffee

Go to page 9

21. Which of the following experiments show the expansion of air?



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

22. In some places, telephone wires are hung on poles above the ground. These wires are found to sag a little between the poles because

- (1) the workers did not tighten the wires properly
- (2) the sagging allows the wires to expand on hot days
- (3) the sagging allows the wires to contract on cold nights
- (4) birds often rest on the wires and make them sag

23. An object can cast shadows of different \_\_\_\_\_.

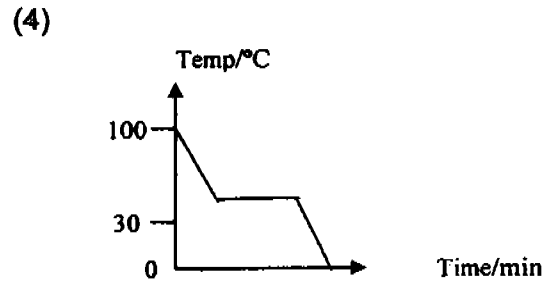
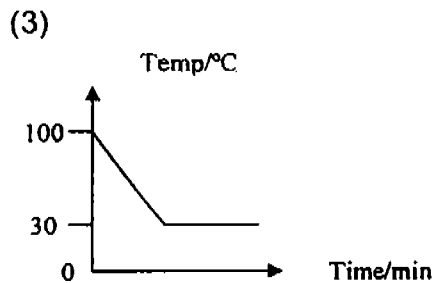
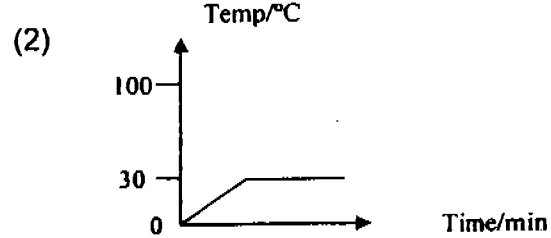
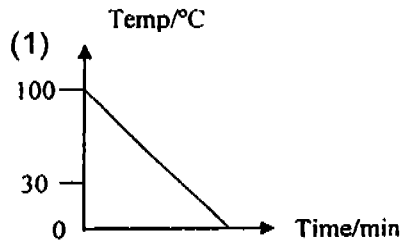
- (1) shapes and colours
- (2) sizes and shapes
- (3) masses and shapes
- (4) sizes and smells

24. Tina caught sight of her reflection in the fridge door and quickly wiped away the chocolate stains round her mouth. Which of the following assumptions about the situation is incorrect?

- (1) There is some light in the kitchen.
- (2) The fridge door has a very smooth surface.
- (3) The surface of the fridge can reflect light.
- (4) The fridge door must be a light colour.

Go to page 10

25. A glass of boiling hot water was left in a room to cool. Which one of the following graphs best shows the temperature of the hot water over a period of time?



Study the table below and answer Questions 26 and 27 that follows.

A	B	C
Glass	Tracing paper	Mirror
Clear plastic	Frosted glass	Cardboard

26. The objects above are grouped according to \_\_\_\_\_.

- (1) their colour and texture
- (2) their usefulness
- (3) the amount of light that passes through them
- (4) their state of matter

- 27 Which one of the following objects **cannot** be placed in Group C?

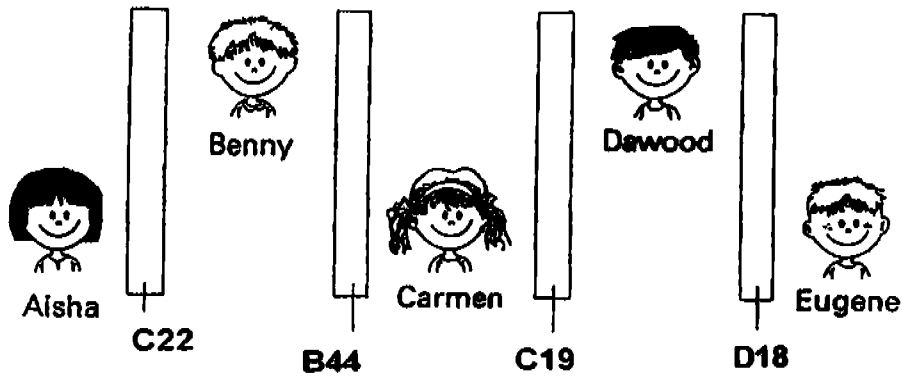
- (1) Aluminum foil
- (2) Cellophane
- (3) Drawing block
- (4) Wrapping paper

Go to page 11

28. A factory makes eight types of materials. Each material is given a special code. The materials are classified in the table below.

Does not allow light to pass through	Allows light to pass through
A 10	A55
B13	B44
C19	C22
D18	D33

A designer chose four materials from the table to build walls inside a playroom. He asked five children to stand behind the walls, as shown in the diagram below.

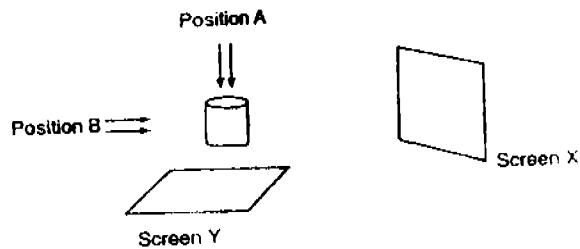


Which one of the following statements is true?

- (1) Aisha cannot see Benny.
- (2) Benny cannot see Carmen.
- (3) Carmen can see Aisha.
- (4) Eugene can see Dawood.

Go to page 12

29. A torch is used to shine on a soft drink can onto 2 screens. Shadows are formed on screens X and Y when a torch is shone at position A and then at position B. Which one of the following correctly identifies the shadow formed on the screens?



	X	Y
1.	■	■
2.	●	■
3.	■	●
4.	●	●

30. Which one of the following statements about shadows is false?
- (1) Shadows can be formed in the dark.
  - (2) A shadow is formed when an object blocks the path of the light.
  - (3) A shadow may be formed when light shines at a translucent object.
  - (4) The shape of a shadow is similar to the outline of the object that casts the shadow.

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METHODIST GIRLS' SCHOOL ( PRIMARY )  
END OF YEAR EXAMINATION  
PRIMARY FOUR , 2005

# SCIENCE

## BOOKLET B

NAME : \_\_\_\_\_ (   )

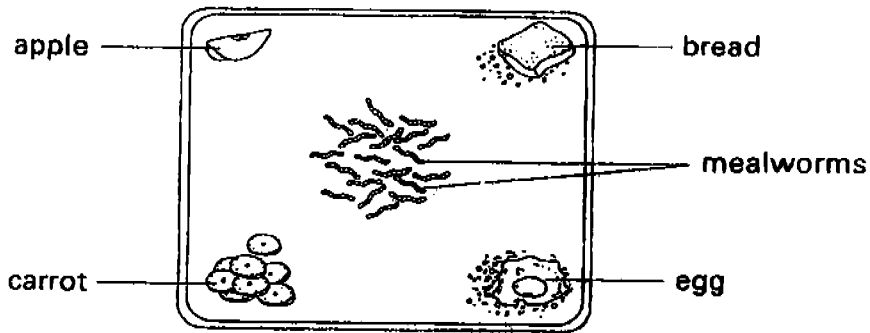
CLASS : \_\_\_\_\_

	MARKS
BOOKLET A 60%	
BOOKLET B 40%	
TOTAL 100%	

SECTION B: ( 40 marks)

Answer the questions in the blanks provided.

31.



Ann carried out an experiment with 20 mealworms. She placed the mealworms in the centre of the tray as shown in the diagram above. She also placed different types of food at the four corners of the tray. After some time, she counted the number of mealworms at each corner. The results were recorded in the table below.

Food	Apple	Bread	Carrot	Egg
Number of mealworms	5	12	2	1

(a) What was Ann trying to find out in this experiment? (1m)

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(b) Why did Ann put the mealworms in the centre of the tray? (1m)

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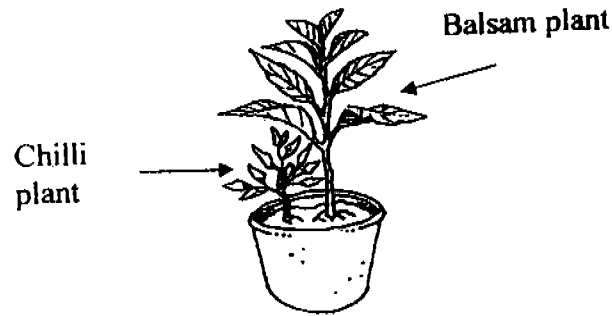
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(c) At what stage is mealworm in the life cycle of the beetle? (1m)

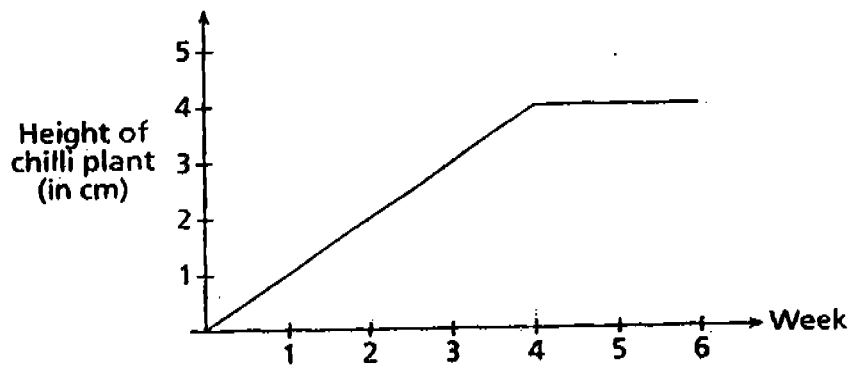
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32. Ali plants a chilli plant in a pot beside a balsam plant. He waters the plants every day.



The graph below shows the growth of the chilli plant for 6 weeks.



- (a) What can you say about the growth of the chilli plant? (1m)

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- (b) Give one factor that affects the growth of the chilli plant after some time? (1m)

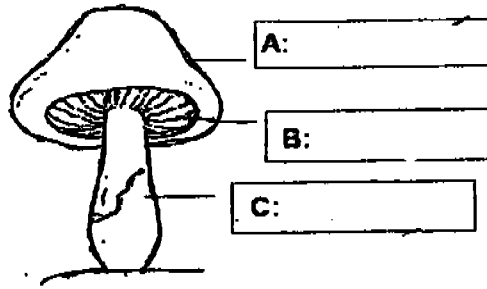
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33a) Name the parts labelled A, B and C. (1½m)



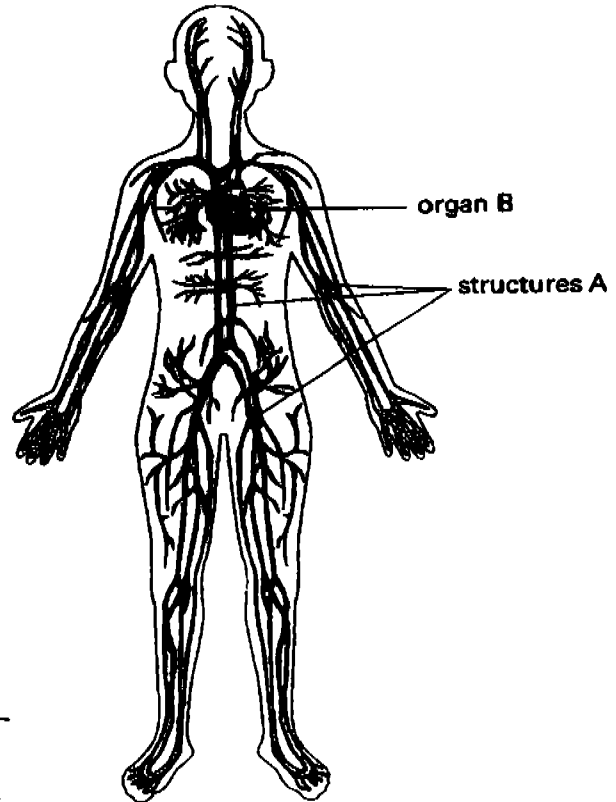
b) How does the living thing shown above reproduce? (½ m)

\_\_\_\_\_

34. The diagram on the right shows the circulatory system of the human body.

(a) What is the function of the parts labelled A? (1m)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



(b) Name the organ labelled "B"? (1 m)

\_\_\_\_\_

(c) What happens to organ B when a person runs? (1m)

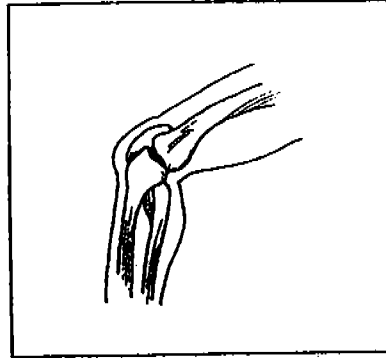
\_\_\_\_\_  
\_\_\_\_\_

(d) Which part of the skeletal system protects organ B? (1m)

\_\_\_\_\_  
\_\_\_\_\_

Go to page 16

35. The diagram below shows a joint found in our body.



a) Where in the skeletal system can this joint be found?. ( 1m)

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b) There are many types of joints.  
What is this type of joint known as? (1m)

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c) How does this joint help us in our movement? (2m)

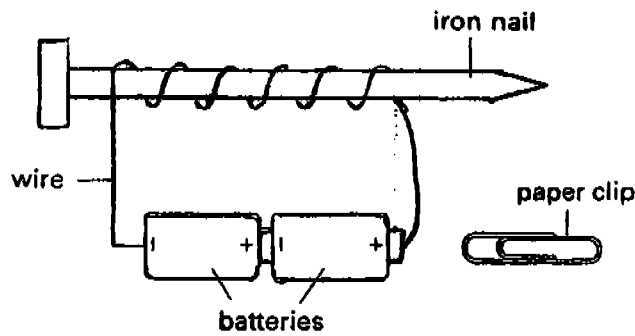
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Go to page 17

36. Min Min made an electromagnet with two batteries, an iron nail and a piece of wire. The set-up is shown below.



She tested her electromagnet and recorded the results in the table below.

Number of wire coils around the nail	10	20	30	40
Number of paper clips attracted by the nail	1	1	2	2

- (a) What is the energy source in Min Min's experiment? (1m)

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- (b) How did Min Min increase the strength of the electromagnet in her experiment? (1m)

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- (c) Suggest another way where Min Min can do to increase the strength of her electromagnet? (1m)

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Go to page 18

37. The diagram below shows the cross-section of a human heart.



Parts of the heart and its blood vessels are labelled A, B, C and D. Write the parts (A, B, C, D) in the blanks below accordingly. (2m)

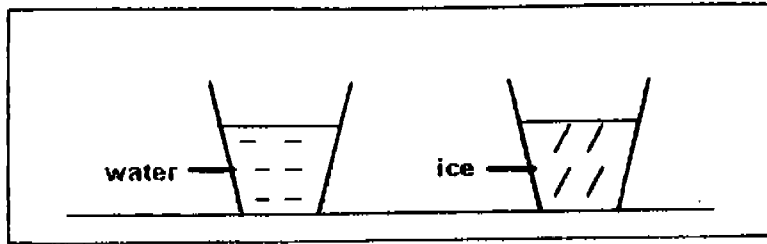
Carries blood rich in Carbon Dioxide : \_\_\_\_\_

Carries blood rich in Oxygen : \_\_\_\_\_

38. All living things breathe. Gaseous exchange in human takes place in the \_\_\_\_\_ while in plants, it takes place in the \_\_\_\_\_ found mostly on the underside of the leaves. Fishes breathe through their \_\_\_\_\_ which absorb the dissolved \_\_\_\_\_ in the water and release carbon dioxide into the water as it flows out of the gill covers. (2m)

Go to page 19

39. The diagram below shows a glass of water and a glass of ice that have been taken out of a freezer.



- (a) The two glasses are tilted as shown in the diagram below. Draw in the new water level in the glass of water and ice respectively. ( 1m)



- (b) What does this experiment show about water level? (1m)

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40. Darren lowered 2 cups into a basin. One of the cups had a hole.

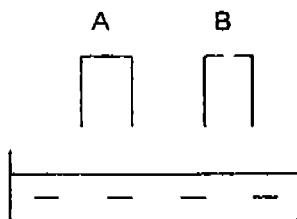


Diagram A

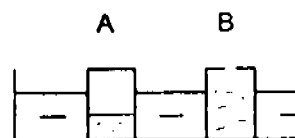


Diagram B

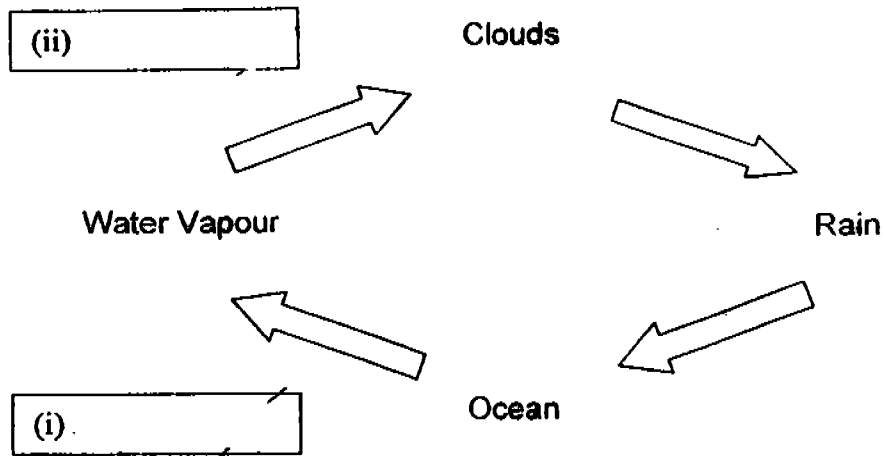
- (a) Draw the new water level in Diagram B. ( 1m)
- (b) Explain why it happens in relation to your answer in part (a). (1m)

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41. The diagram below shows the Water Cycle.



- (a) Name the processes that occur in (i) and (ii). ( 2m)  
 (b) State a difference between boiling and the process in ( i ) (1m)

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42 Andy wants to find out what factors affect how quickly water evaporates. Use the information in the table below to answer the follow questions.

Beaker	Volume of water at the start of experiment.	Surrounding temperature	Exposed surface area	Volume of water at the end of experiment
A	200 ml	40°C	Large	100ml
B	200 ml	40°C	Small	150ml
C	200 ml	80°C	Large	60ml
D	250 ml	40°C	Large	200ml
E	250 ml	80°C	Small	150ml

- (a) If he wants to find out whether temperature affects the rate of evaporation, which two beakers should he use? (1m)
- 
- 
- (b) What is the relationship between exposed surface area and the rate of evaporation? (1m)
- 
- 

Go to page 21

43 2 identical containers with equal amounts of water were left on a table at room temperature (30°C). The water in Container A is at 80°C while the water in Container B is at 10°C.

(a) What will happen if they are left on the kitchen table for one hour? (2m)

Put a tick "  " in the correct boxes below.

	Lose Heat	Gain Heat	Increase in temperature	Decrease in temperature
Water in Container A				
Water in Container B		<input checked="" type="checkbox"/>		

(b) After 5 hours, what will be the temperature of the water in Containers A and B? (1m)

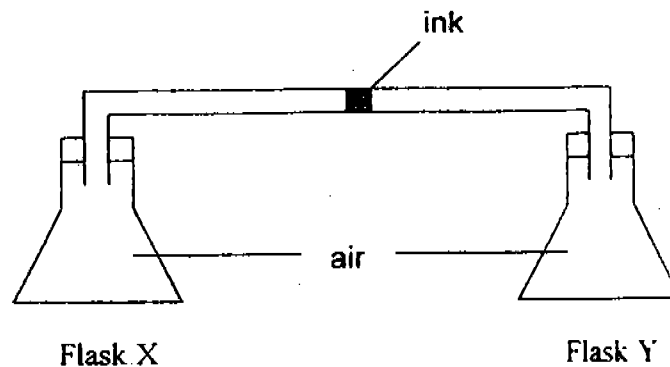
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Go to page 22

44. The diagram shows 2 flasks, X and Y, connected by a tube that has a drop of ink.



- (a) Suggest one way of moving the drop of ink towards Flask Y. (1m)

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- (b) Explain clearly the reason how the suggestion in (a) would cause the drop of ink to move towards Flask Y. (2m)

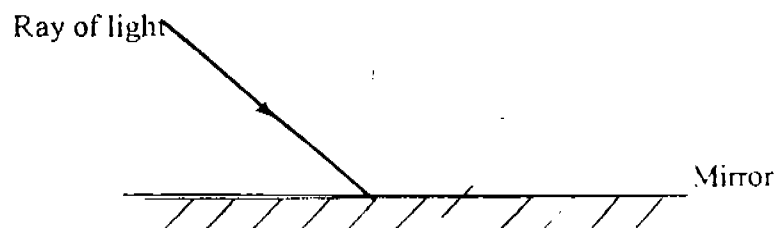
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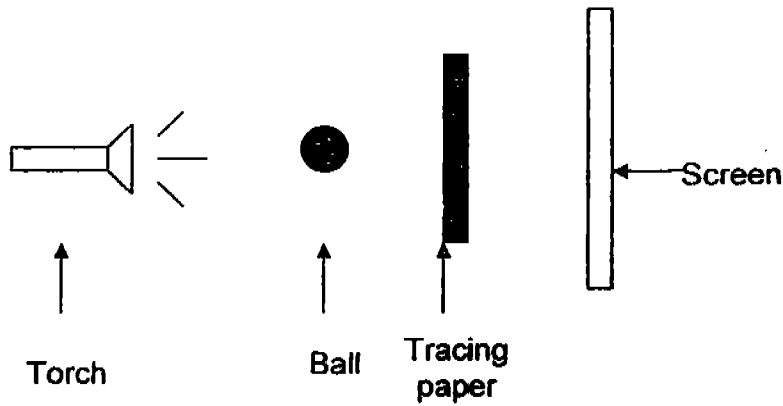
45. The diagram shows a ray of light falling on a plane mirror. Draw in the path taken by the ray after it touches the mirror. (1m)



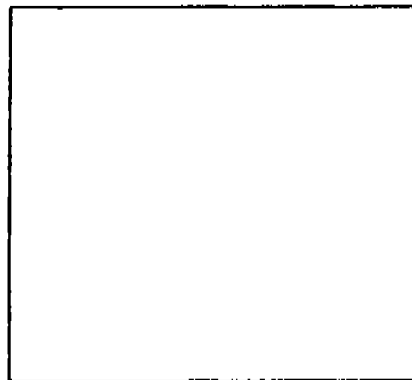
Go to page 23



46 Dave shone a torch at a ball and a piece of tracing paper as shown below.



(a) Draw how the shadow most likely cast by the two objects on the screen. (1m)



screen

(b) What happens to the shadow when the objects are moved nearer to the screen? (1m)

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End of paper

METHODIST GIRLS SCHOOL (PRIMARY)  
PRIMARY FOUR  
SCIENCE  
END OF THE YEAR EXAMINATION - 2005

SAL

- 1) 3                      28) 3  
2) 1                      29) 3  
3) 2                      30) 1  
4) 4                      31) a) Ann was trying to find out what food  
5) 2    mealworms like the most.  
6) 2    b) She put them in the centre so that the  
7) 4    distance between them and the food is  
8) 3    equal.  
9) 3    c) The larvae stage - the young of the  
10) 3     beetle.  
11) 2                      32) a) The chilli plant was growing very  
12) 3     healthily for 4 weeks and then stops  
13) 4     growing after that.  
14) 2     b) Lack of sunlight as the Balsam plant is  
15) 4     blocking and preventing the sunlight from  
16) 2     reaching the chilli plant.  
17) 2                      33) a) A : Mushroom  
18) 1     B : Gills  
19) 3     C : Stalk  
20) 4     b) The living thing reproduces by spores.  
21) 1                      34) a) A carries blood from the heart to all  
22) 3     parts of the body for the cells to respire  
23) 2     and transports the waste materials to be  
24) 4     disposed off.  
25) 3     b) The heart  
26) 3     c) Organ B pumps and beats faster.  
27) 2     d) The rib cage.  
35) a) The knee  
b) A hinge joint  
c) The joint allows the knee to bend and so  
the bones and joint work the muscles,  
we can move and walk.

- 36) a) The batteries  
 b) She increased the number of coils around the iron nail.  
 c) She could add a few more batteries to the electromagnet.

- 37) A and C  
 B and D

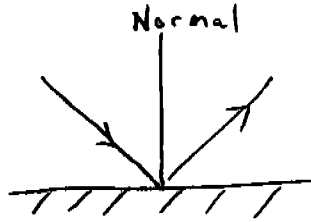
38) lungs

stomata

gills

oxygen

45)

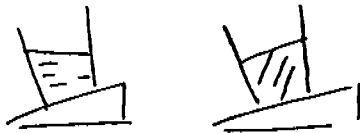


46) a)



b) The shadow will get smaller and sharper.

39) a)



b) The water level will always be parallel to the ground.

40) a)



b) The air in A has definite volume and occupies space and there is a hole in B that allows air to escape.

41) a) ii) condensation

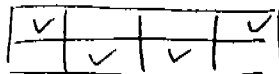
i) Evaporation

b) Boiling takes place at a definite temperature ( $100^{\circ}\text{C}$ ) while evaporation takes place at any temperature.

42) a) He should use beakers A and C.

b) The larger the exposed surface area, the higher the rate of evaporation.

43) a)



b) The water in containers A and B will be at room temperature ( $30^{\circ}\text{C}$ )

44) a) You could use a bunsen burner and heat up Flask X.

b) When you heat up flask X, the air in it will get heated and expand. The expanded air has no space to go so it goes up the tube and pushes the ink drop towards Flask Y.

Questions 45 and 46 (see above)