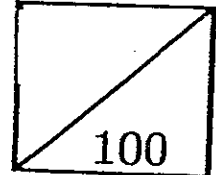




Rosyth School
Semestral Assessment 1 for 2008
SCIENCE
Primary 5



Name: _____

Total
Marks:

Class: Pr _____

Register No. _____

Duration: 1 h 45 min

Date: 12 May 2008

Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in the Booklet B.

	Maximum	Marks Obtained
Booklet A	60 marks	
Booklet B	40 marks	
Total	100 marks	

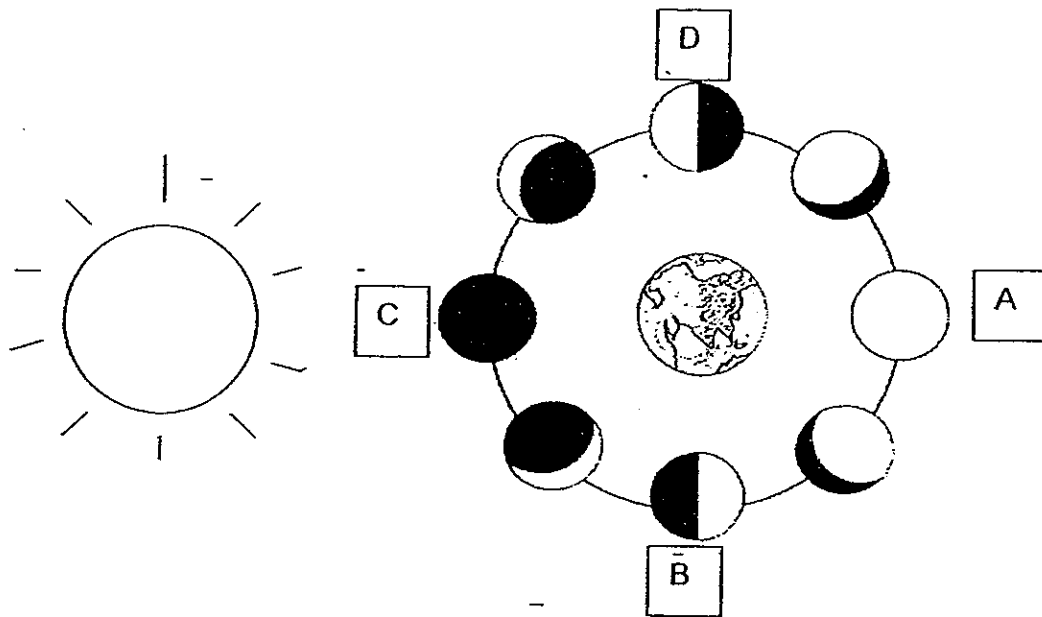
* This booklet consists of 15 pages .

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Booklet A (60 MARKS)

For each question from 1 to 30, 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 The diagram below shows the different phases of the Moon.



At which position is the same half of the Moon facing the Earth as well as the Sun?

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

2 The table below shows the distance between the Sun and some of the planets in the Solar System.

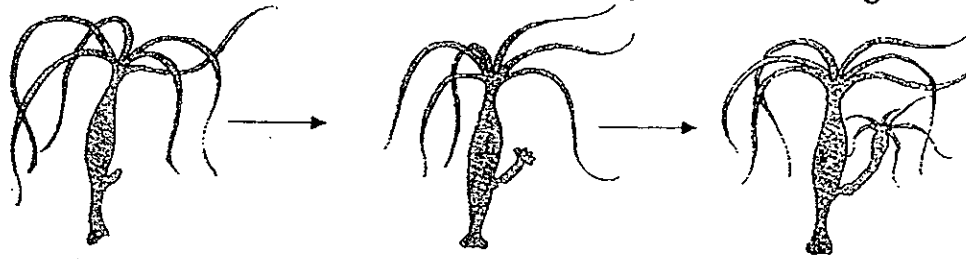
Planet	Mercury	Venus	Earth	Jupiter	Saturn
Distance from the Sun(million km)	58	108	150	778	1427

Which one of the following is a deduction which can be drawn from the table above?

- (1) The temperature on Venus is lower than that on Earth.
- (2) The Sun exerts a pull on Mercury but it does not exert a pull on Saturn.
- (3) Jupiter takes more than 365 Earth days to complete a revolution round the Sun.
- (4) Mercury takes less than 24 Earth hours to complete a rotation about its own axis.

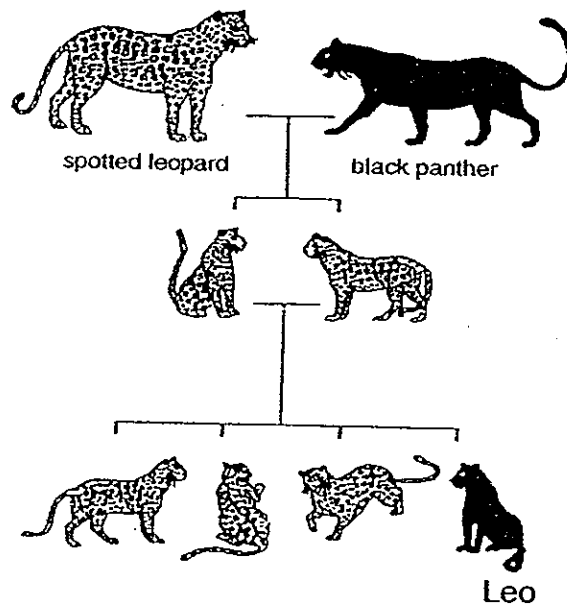
(Go on to the next page)

- 6 The diagram below shows part of the reproduction process of an organism.



Which one of the following organisms reproduces in a similar manner?

- (1) yeast
 (2) bacteria
 (3) amoeba
 (4) paramecium
- 7 A substance has to pass through various parts of a plant cell before reaching the nucleus. Which one of the following shows the correct order of these parts?
- (1) cell wall, cytoplasm, cell sap
 (2) cell membrane, cytoplasm, cell sap
 (3) cell wall, cell membrane, cytoplasm
 (4) cell membrane, cell sap, cytoplasm
- 8 In the animal kingdom, animal siblings of the same family sometimes mate to produce offspring. The diagram below shows the family tree of Leo.

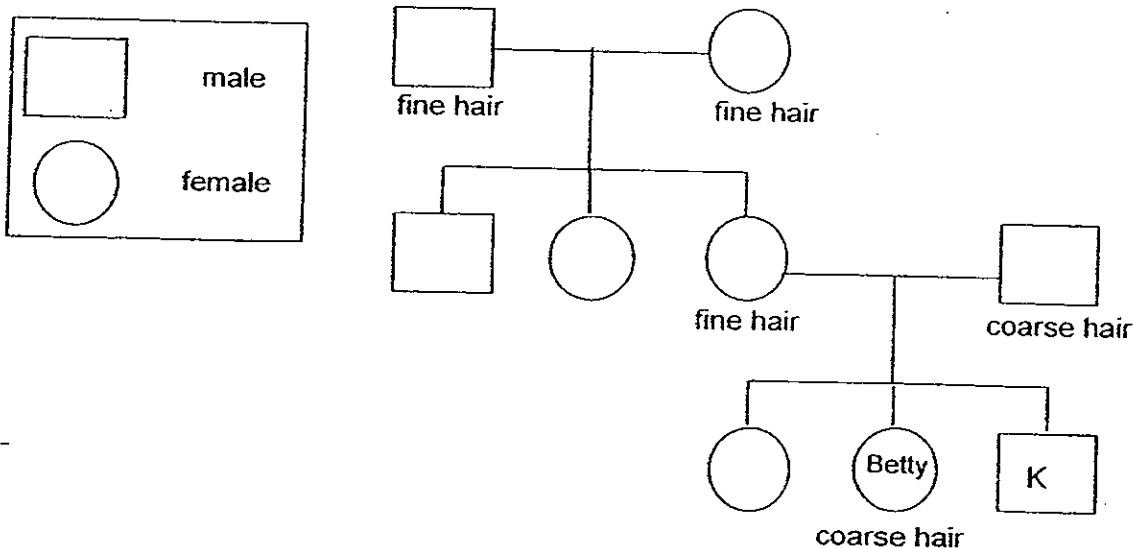


Which one of the following statements about the family tree is incorrect?

- (1) Leo and its siblings have spotted parents.
 (2) At least two of the spotted cats are of the same gender.
 (3) Only the spotted leopard passed on its traits to its offspring.
 (4) The spotted leopard and the black panther produced a male offspring and female offspring.

(Go on to the next page)

9 Betty drew her family tree as shown below.

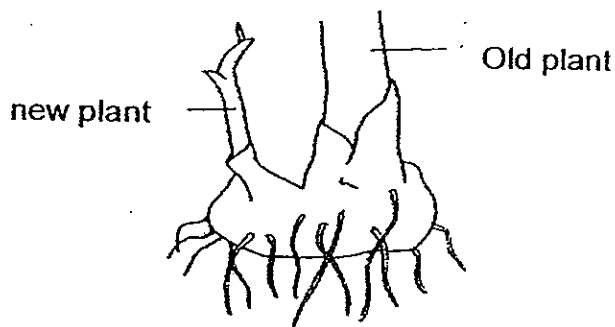


Based on the family tree, which of the following statements are true?

- A K is Betty's brother.
- B Betty inherited her coarse hair from her father.
- C Betty's grandparents have 2 daughters and 2 sons.
- D The grandparents shown in the family tree are the parents of Betty's mother.

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

10 The diagram below shows a new plant growing from the bud of an old plant.

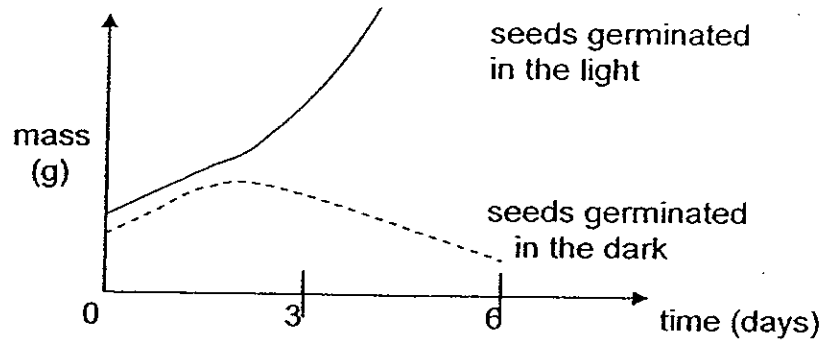


Which one of the following processes is taking place?

- (1) budding
- (2) dispersal
- (3) fertilisation
- (4) reproduction

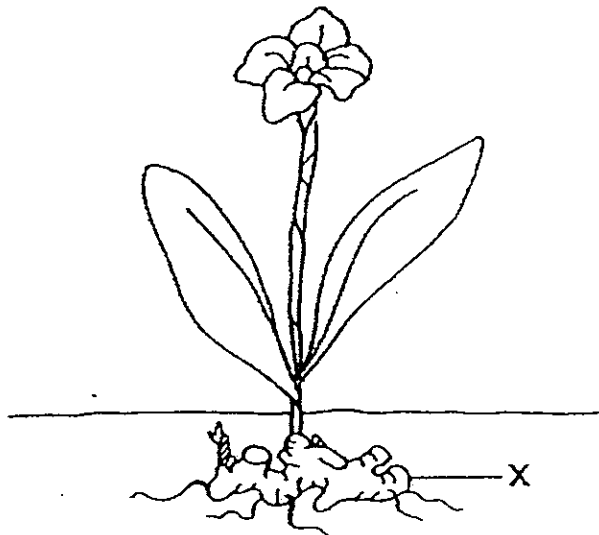
(Go on to the next page)

- 11 The graph below shows the changes in the masses as the green bean seeds germinate and grow into a seedling.



What is the cause in the change of mass of the seedling in the light after Day 3?

- (1) Photosynthesis has taken place.
 - (2) A lot of water has been absorbed.
 - (3) The respiration rate has increased.
 - (4) All the stored food has been used up.
- 12 The diagram below shows a Canna plant.

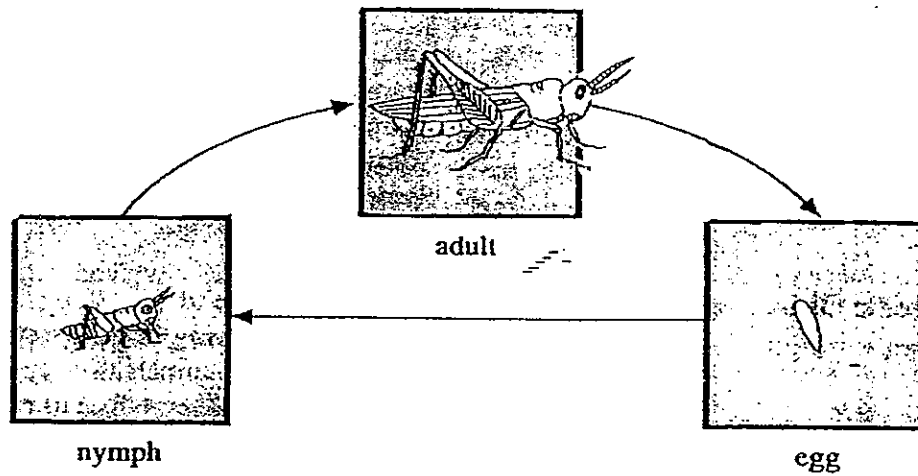


Which of the following statement(s) is/are true of the part marked X.

- A Starch is stored in X.
 - B X makes food for the plant.
 - C New plants can grow from X.
 - D X takes in water and nutrients from the soil.
- (1) A only
 - (2) A and C only
 - (3) A, C and D only
 - (4) A, B, C and D

(Go on to the next page)

15 The diagram below shows the life cycle of a grasshopper.



Which group of animals has a similar life cycle as the grasshopper?

- (1) bird, frog and cockroach
- (2) mouse, cat and kangaroo
- (3) guppy, rabbit and hamster
- (4) mosquito, butterfly and moth

16 The table below shows some characteristics of fruits A, B, C and D.

Fruit	Characteristics			
	Colour	Flesh	Texture	Outer Covering
A	yellow	thick	smooth	none
B	dark brown	thin	rough	none
C	brown	thin	rough	stiff hairs
D	brown	thin	smooth	wing-like

Which of the fruit(s) is/are likely to be dispersed by animals?

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

(Go on to the next page)

17 Grass, as shown in the diagram below, reproduces by seeds.



Which one of the organisms below reproduces in the same way as grass?



fern
(A)



chrysanthemum plant
(B)



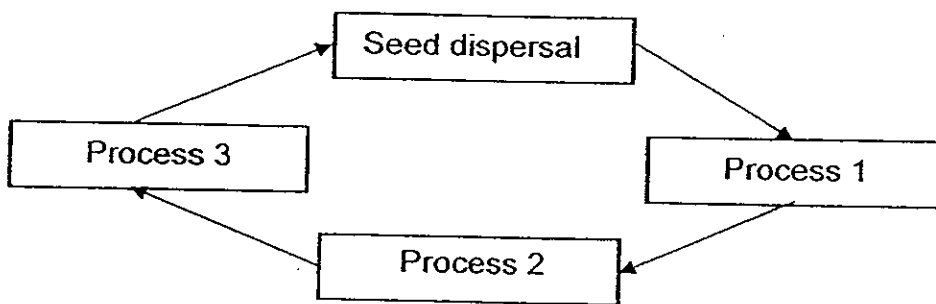
mushroom
(C)



hydra
(D)

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

18 The diagram below shows a cycle of processes that take place in the reproduction of new flowering plants.



Which one of the following represents process 1, 2 and 3 respectively?

	Process 1	Process 2	Process 3
(1)	germination	pollination	fertilisation
(2)	pollination	germination	fertilisation
(3)	pollination	fertilisation	germination
(4)	germination	fertilisation	pollination

(Go on to the next page)

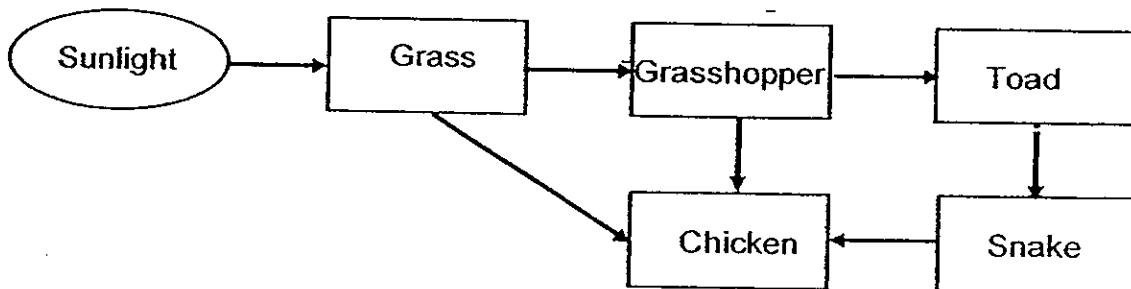
- 19 A group of students removed various parts of four groups of hibiscus flowers from a hibiscus plant. The parts that were removed are shown in the table below.

Group	Parts removed
A	Petals only
B	Sepal only
C	Stigmas only
D	Anthers only

Pollen grain from an intact flower was collected and dusted on the remaining parts of the four groups of flowers. The development of these flowers was then observed over a period of time.

Which group of flowers did not develop into fruits after a few weeks on observation?

- (1) C only
 (2) D only
 (3) A and B only
 (4) C and D only
- 20 Three children were asked to write sentences about the energy-transfer diagram as shown below.



They wrote the following sentences.

Andy: The toad gets its energy indirectly from the Sun.

Belle: The herbivores get their energy from the grass and in turn transfer it to the other animals.

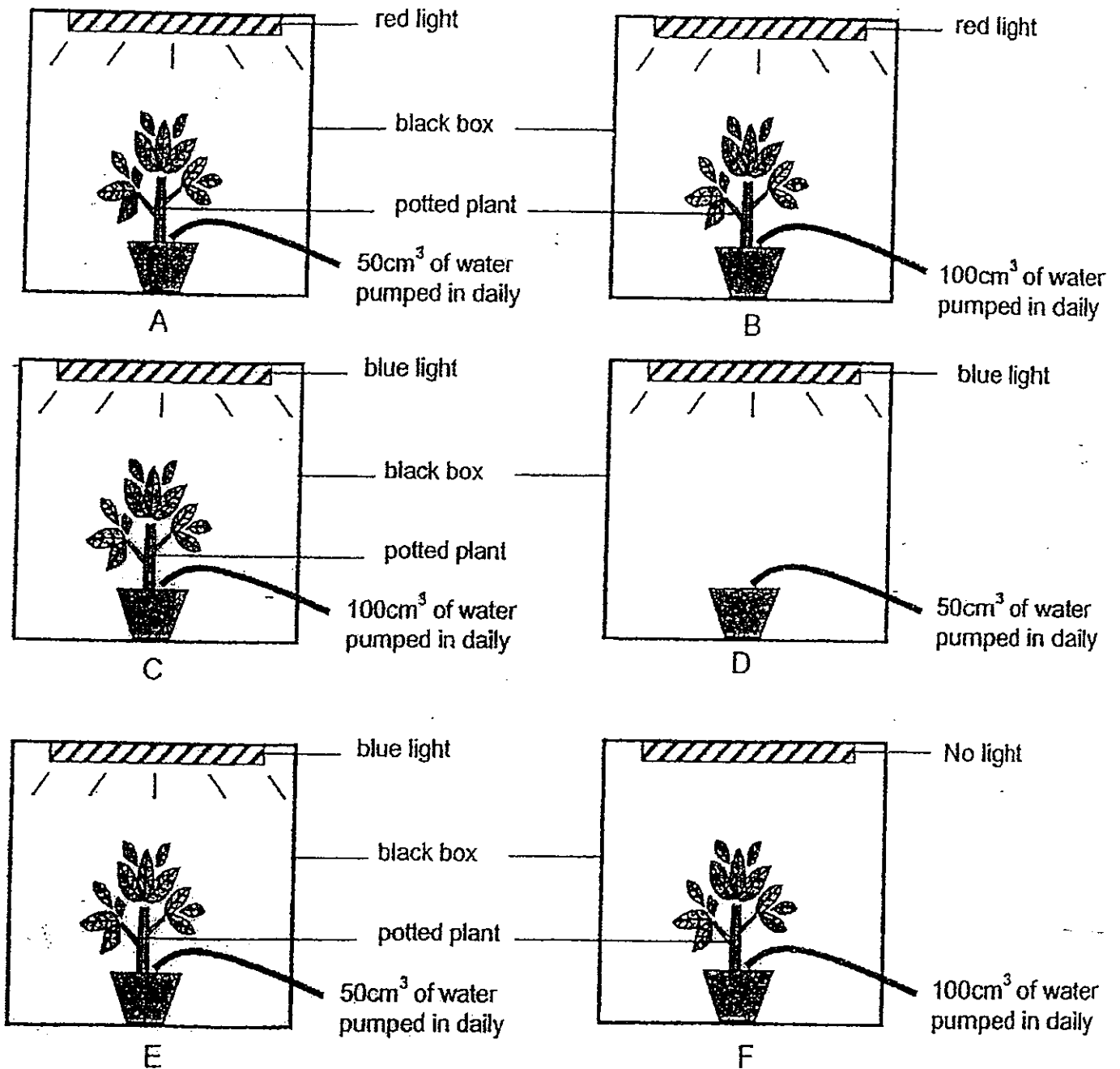
Chris: The Sun directly and indirectly provides energy for all the organisms in the energy transfer diagram.

Who is/ are correct?

- (1) Andy only
 (2) Belle only
 (3) Andy and Belle only
 (4) Andy, Belle and Chris

(Go on to the next page)

22 An experiment was conducted to study the effects of different lights on the growth of potted plants over a period of time.

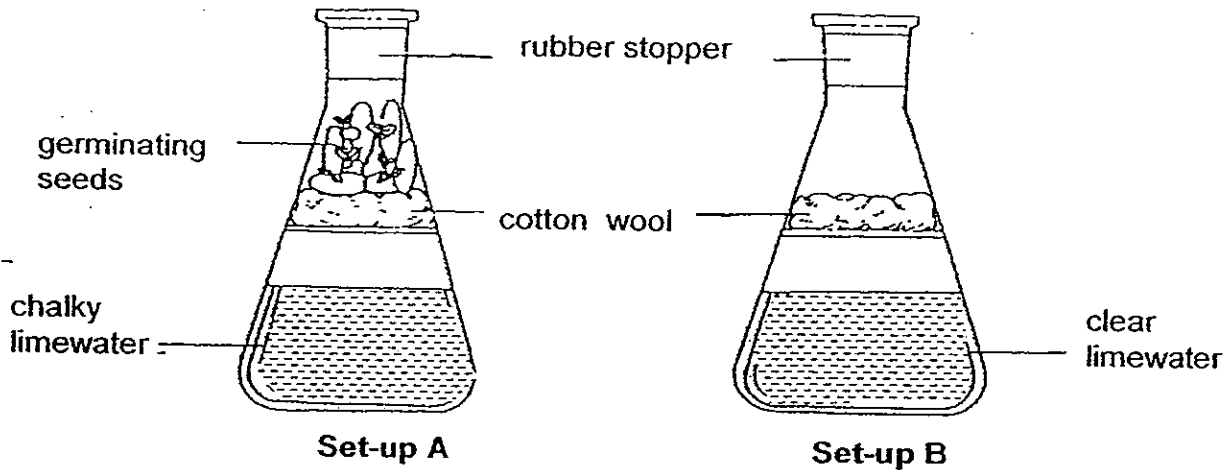


Which of the above set-ups were used in order to ensure a fair test was conducted?

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

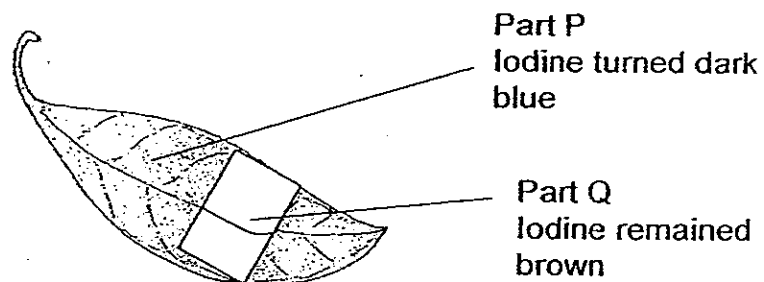
(Go on to the next page)

- 23 In an experiment, two set-ups, Set-up A and Set-up B were used. Both Set-ups were left in a warm and dark place for an entire day. At the end of the day, it was observed that the limewater in Set-up A turned chalky but the limewater in Set-up B did not turn chalky.



Which one of the statements below states the aim of the experiment?

- (1) To find out whether oxygen would turn limewater chalky.
 - (2) To find out whether carbon dioxide would turn limewater chalky.
 - (3) To find out whether oxygen was given out by the germinating seeds.
 - (4) To find out whether carbon dioxide was given out by the germinating seeds.
- 24 One of the leaves on a particular plant was partly covered with a piece of black paper. The plant was then left in a well-lit room from 7am to 7pm. The leaf was then tested for the presence of starch and the result was as shown below.

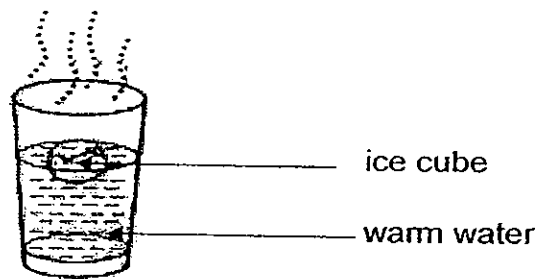


Which one of the following shows the processes taking place in Part P and Q?

	Did photosynthesis take place?		Did respiration take place?	
	Part P	Part Q	Part P	Part Q
(1)	yes	no	yes	no
(2)	no	yes	no	no
(3)	yes	no	yes	yes
(4)	no	yes	no	yes

(Go on to the next page)

- 25 When a cube of ice is placed into a glass of warm water, which of the following happens?

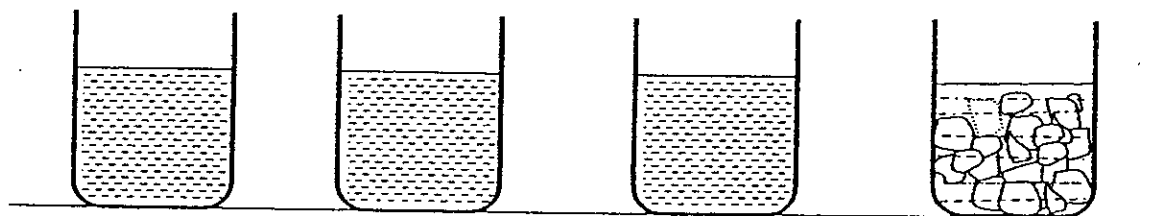


- A The ice loses heat to the glass.
- B The ice gains heat from the water in the glass.
- C The water in the glass loses heat to the surrounding air.

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

- 26 David wanted his dented ping-pong ball to become round again. His friend, John, had told him that all he needed to do was to submerge the ping-pong ball in water. However, he could not remember which type of water to use.

The four beakers below contain different types of water.



Beaker A
tap water

Beaker B
boiling water

Beaker C
cold water

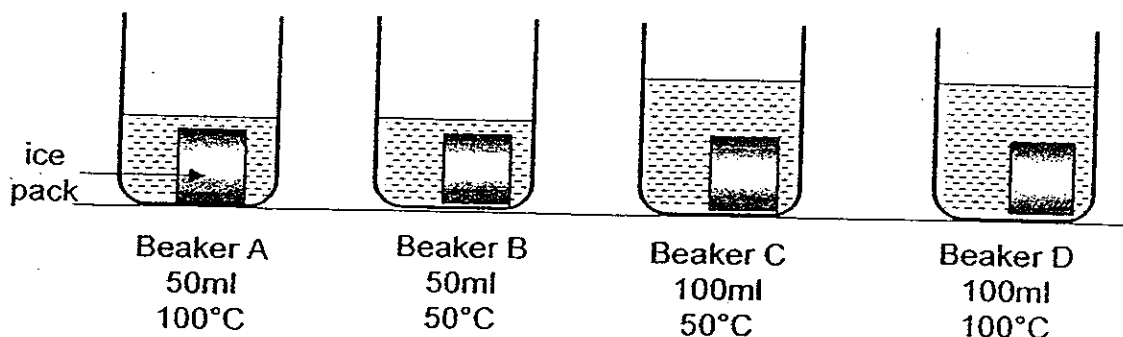
Beaker D
melting ice

Which beaker should David use to make his ping-pong ball round again?

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

(Go on to the next page)

- 27 Four beakers A, B, C and D contain different volumes of water at different temperatures as shown below.



Mary placed an ice-pack into each beaker and measured the time taken for the ice-pack to completely melt.

In which beaker would the ice-pack completely melt first?

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

- 28 Ahmad made some observations when three objects X, Y and Z were placed in between the light source and a screen one at a time.

The observations were recorded in the table as shown below:

Object	Observation
X	Dark shadow was formed.
Y	Light shadow was formed.
Z	No shadow was formed.

Which of the following explain why the above observations were made?

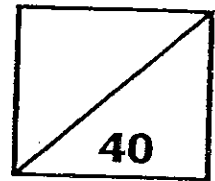
- A Object X is opaque while Object Z is transparent,
 B Object Y is placed furthest away from the light source.
 C The path of light was blocked by at least one of the objects.

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

(Go on to the next page)



Rosyth School
Semestral Assessment 1 for 2008
SCIENCE
Primary 5



Name: _____

Total
Marks:

Class: Pr _____

Register No. _____

Duration: 1 h 45 min

Date: 12 May 2008

Parent's Signature: _____

Booklet B

Instructions to Pupils:

1. For questions 31 to 46; give your answers in the spaces given in this Booklet B.

* This booklet consists of 13 pages.

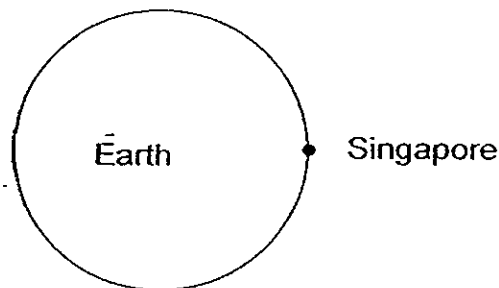
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Booklet B (40 MARKS)

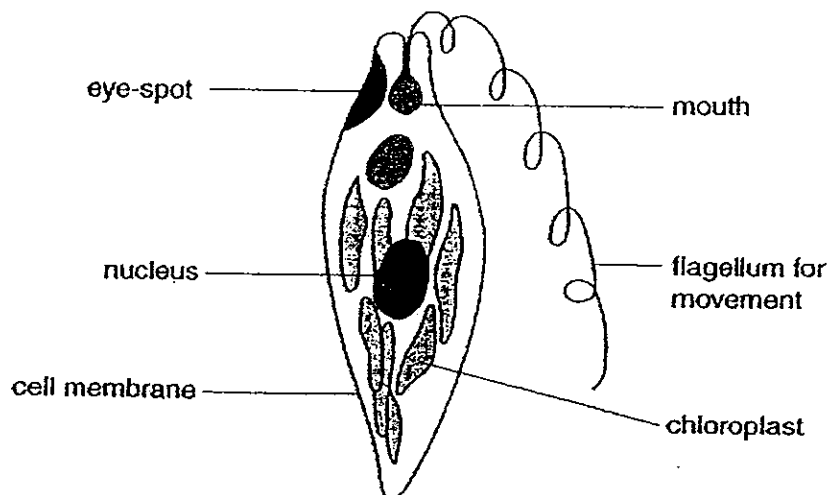
For questions 31 to 46, write your answers in this booklet.

- 31 Rosli's aunt is working in Boston, USA. When he telephoned her at 11.00am Singapore time, he was surprised to find out from her that it was 11.00pm in Boston.

The diagram below shows where Singapore is.



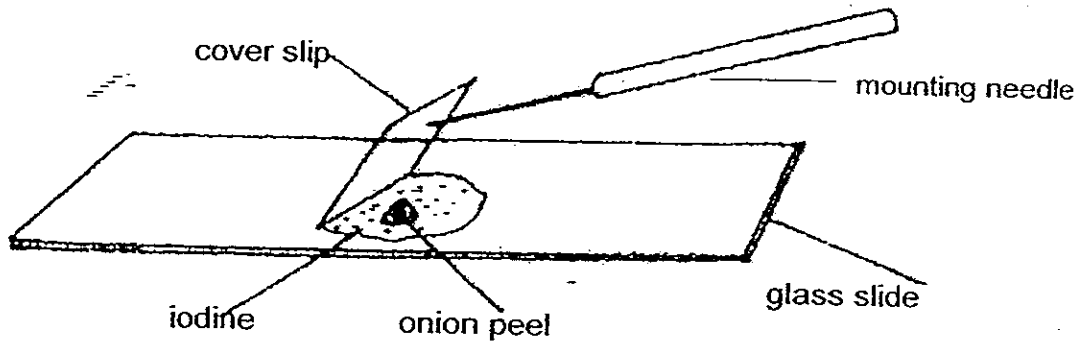
- (a) Label Boston in the diagram by drawing an 'X'. [1]
- (b) Draw an arrow to show the direction of sunlight in the diagram at the time that Rosli called his aunt. [1]
- 32 The diagram below shows a single-celled organism, Euglena.



- (a) What observation suggests that Euglena is like a plant. [1]
-
- (b) What is a structure of a plant cell that is absent in Euglena. [1]
-

(Go on to the next page)

- 33 A student wanted to view a specimen through a light microscope. He placed the specimen on a glass slide, added a drop of iodine and placed a cover slip over the specimen with the help of a mounting needle as shown in the diagram.



- (a) Why did the student use a light microscope for the above situation?

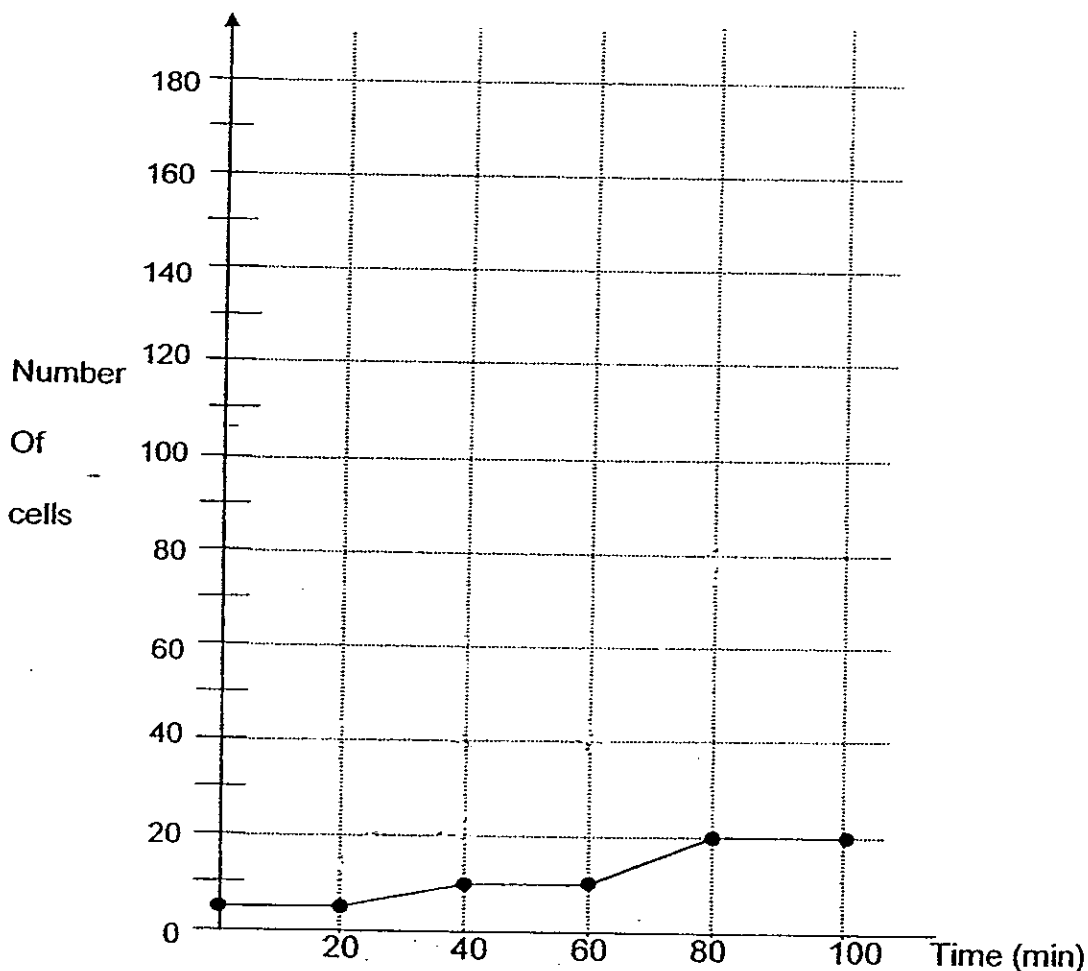
- (b) Explain why the student added iodine to stain the specimen?

- (c) Give a reason for putting a cover slip over the specimen.

- 34 Lester wanted to compare the time taken for yeast cells and bacterial cells to divide. He grew a culture of yeast cells and another culture of bacteria. He counted the number of yeast cells and bacterial cells under a microscope and presented the data in a table as shown below.

Time (min)	0	20	40	60	80
Number. of yeast cells	5	5	10	10	20
Number of bacterial cells	5	10	20	40	80

He plotted a graph showing how the number of yeast cells change over time as shown below.

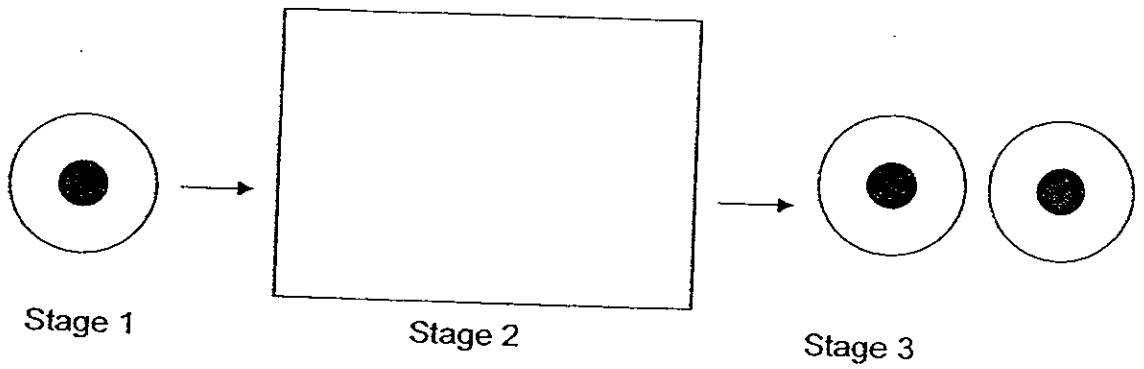


- (a) Plot a graph on the same axes to show how the number of bacterial cells will change from 0 min to 80 min. (11)
- (b) If bacteria cells divide at a similar rate, how many bacteria cells will there be at 100 min? ~~11~~

- (c) Based on the data given, how long does each yeast cell take to complete a cell division? ~~11~~

(Go on to the next page)

35 The diagram below shows the incomplete process of binary fission.



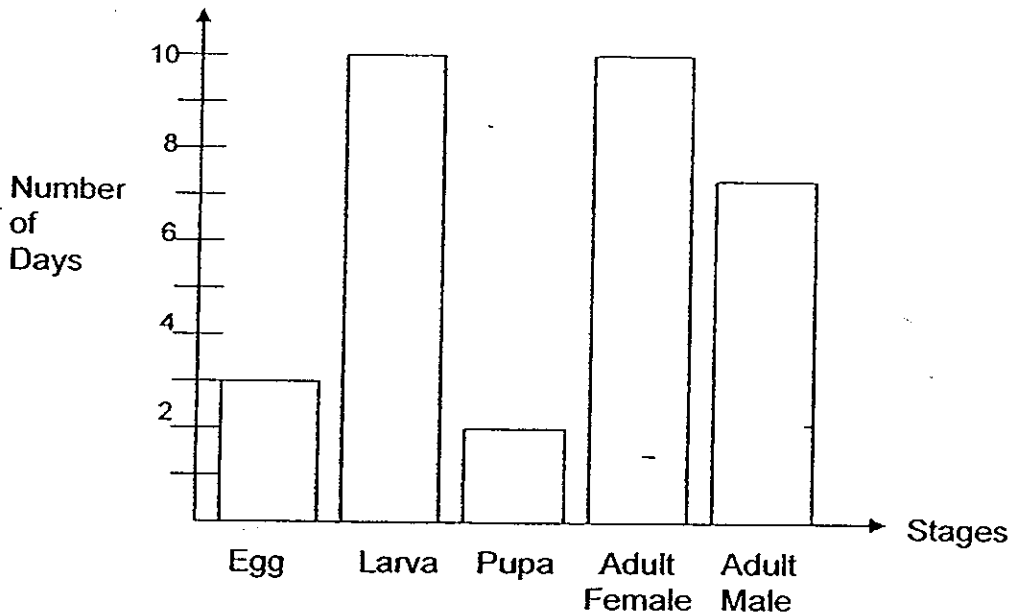
(a) Draw in the box above what happens to the cell in Stage 2. M

(b) Paramecium and amoeba are two examples of micro-organisms that undergo this form of cell division. What is the similarity between them? X

36 Fill in the boxes with suitable word(s) to compare the male sperm cell and the female egg cell of the human reproductive system. [2]

	Sperm cell	Egg cell
Part that produces it	(a) _____	Ovary
Number released	A large number produced at a time	(b) _____ _____ _____ _____

- 37 The graph below shows the number of days each stage in the life cycle of an insect lasts.



Based on the graph, Keming made the following statements. Put a tick (✓) in the appropriate boxes to indicate whether the statements are 'True', 'False' or 'Not Possible to Tell'.

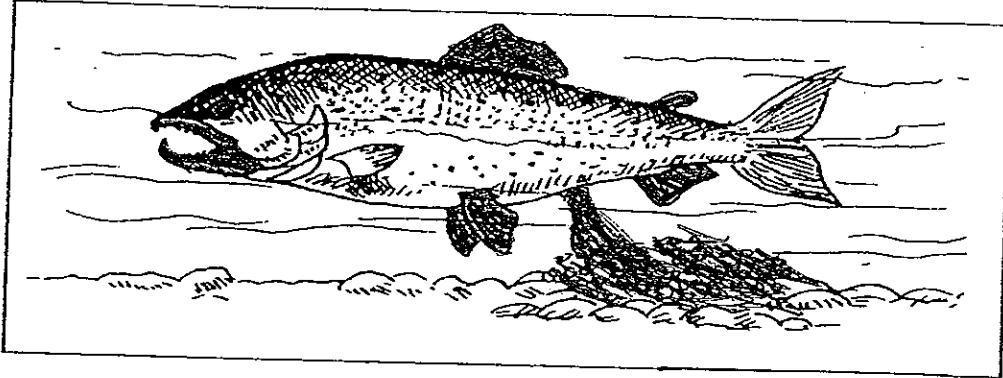
[2]

Keming's statements		True	False	Not Possible to Tell
(a)	There are three stages in the life cycle of this insect.			
(b)	The insect takes 25 days to develop from an egg to an adult.			
(c)	The male insects die soon after they fertilise the eggs.			
(d)	The female insect usually lives longer than the male insect.			

(Go on to the next page)

38

The picture below shows a male salmon squirting a milky substance over some salmon eggs.



(a) After some time, the eggs hatched into baby salmon. Describe the process that had taken place. [1]

(b) How is the process mentioned in (a) different for a duck? [1]

(c) Classify the following animals in the table below based on their method of fertilisation. Provide suitable headings for the table. [2]

duck	salmon	human
------	--------	-------

- 39 Three similar seeds A, B and C were each placed in Petri dishes and exposed to different conditions as shown in the table below.

Setup	Seed	Type of Cotton Wool	Where it is placed
A	Seed A	moist	in the freezer
B	Seed B	moist	near an open window
C	Seed C	moist	in a closed cabinet

- (a) Which seed(s) will not develop into a young plant? Why? [1]

Lucy chose set-up B and C to investigate a factor that is necessary for the seeds to grow into a young plant.

- (b) Which factor was she investigating? [1]

- 40(a) Briefly describe the process of cross-pollination for an insect-pollinated flower. [1]

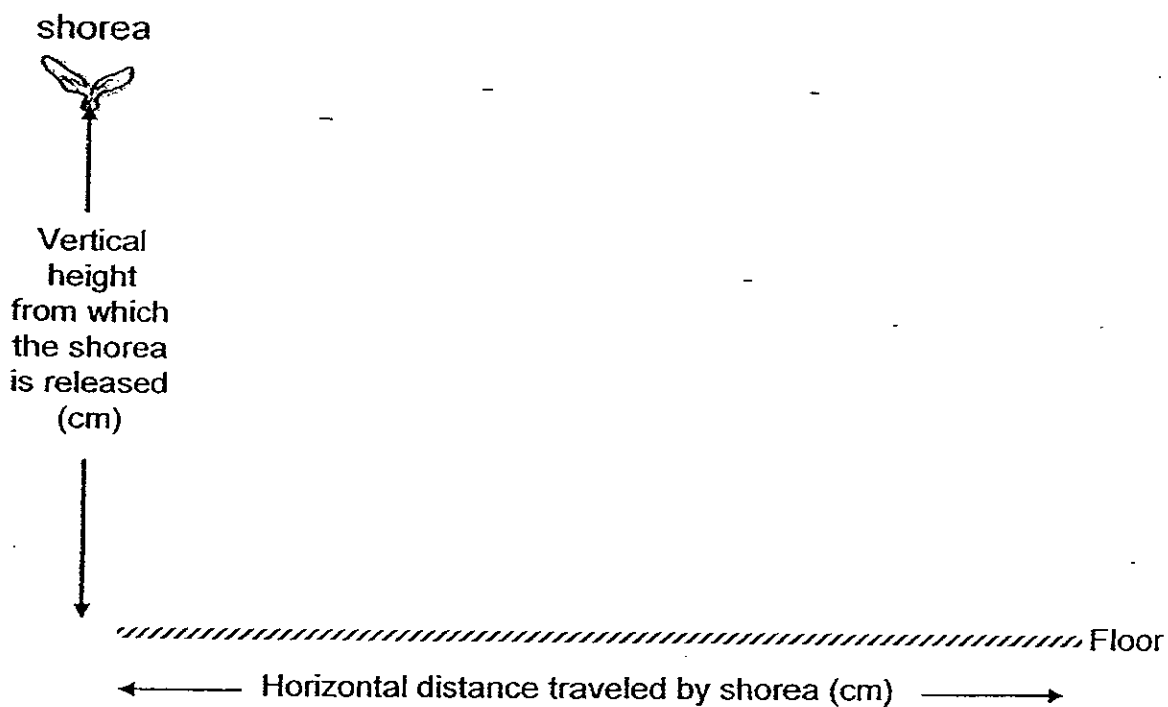
- (b) Describe one difference in the structure between an insect pollinated flower and a wind pollinated flower. [1]

(Go on to the next page)

- 41 Carrie and her group members were given three shorea fruits with varying wingspans. They were told by their teacher that the length of a wingspan can be measured from one tip to the other tip of the wings as shown in the diagram below.



Using the three shorea fruits, a 1-metre long measuring tape and a 30-cm long ruler, Carrie and her group members conducted an experiment as shown in the diagram below.



Based on the above information, answer the following questions.

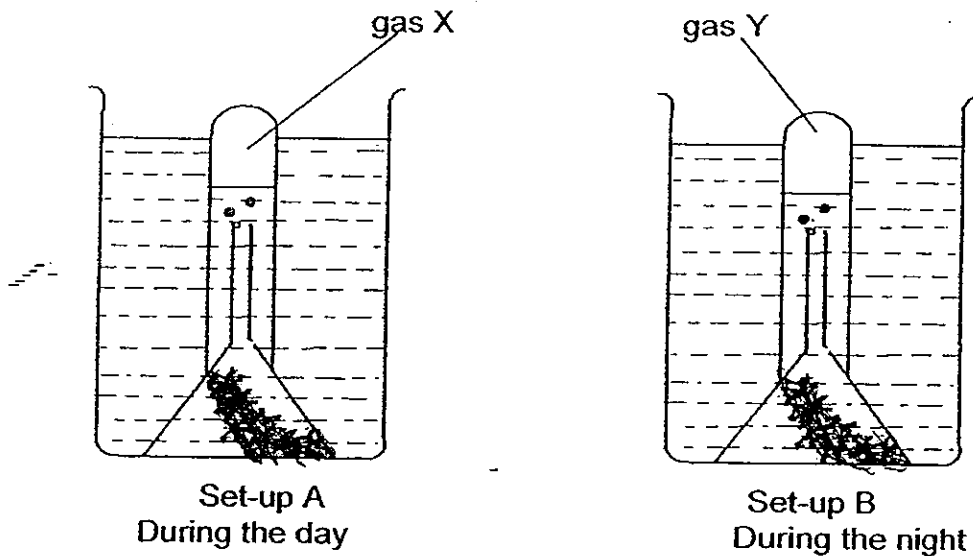
- (a) What was the aim of their experiment? X

- (b) To arrive at a conclusion for this experiment, what measurements must be compared? [2]

Measurement 1: _____

Measurement 2: _____

42 Study the two sets of apparatus carefully.



(a) Identify the gases X and Y.

[1]

Gas X : _____

Gas Y : _____

(b) State the process(es) taking place in the two set-ups.

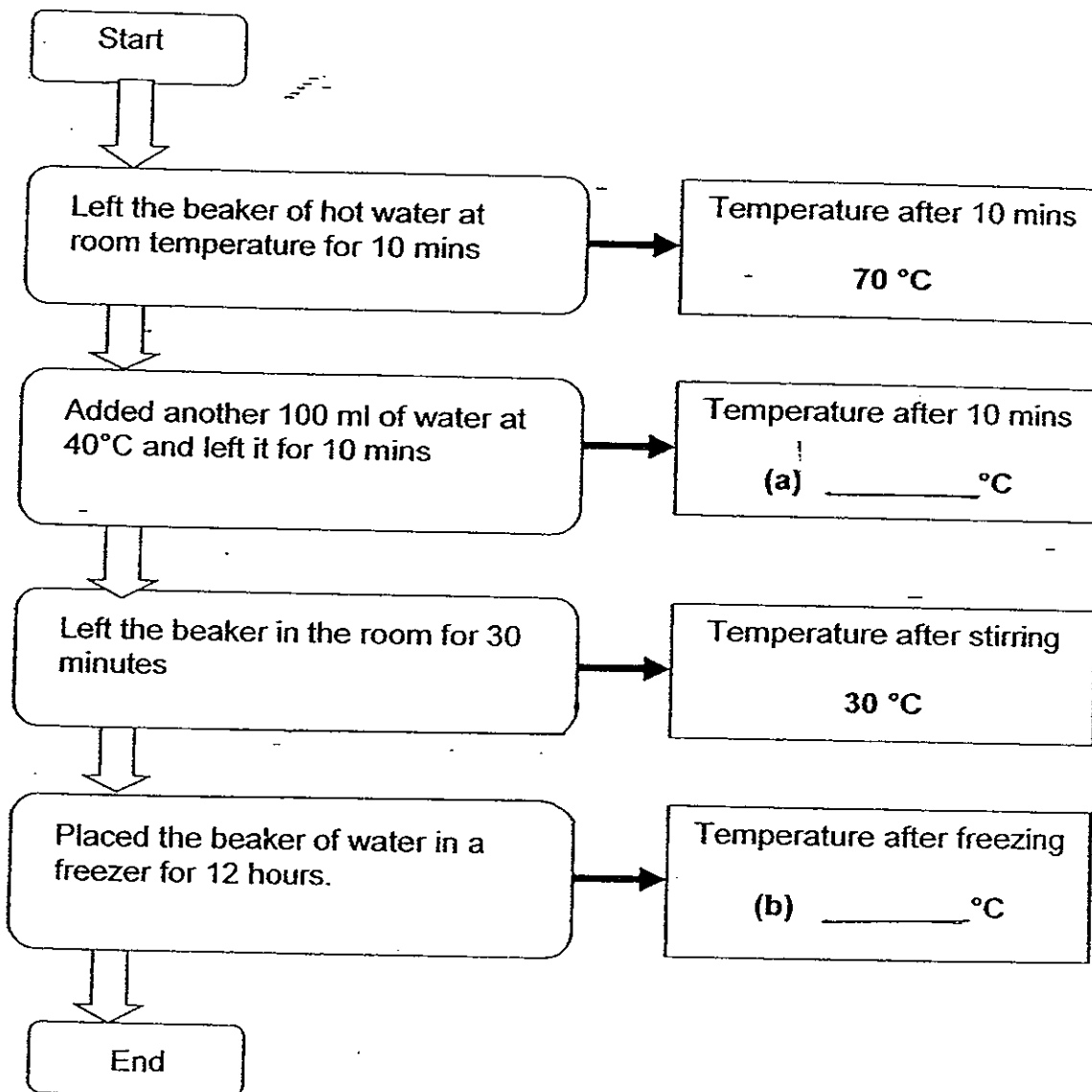
Set-up A : _____ [1]

Set-up B : _____ [1]

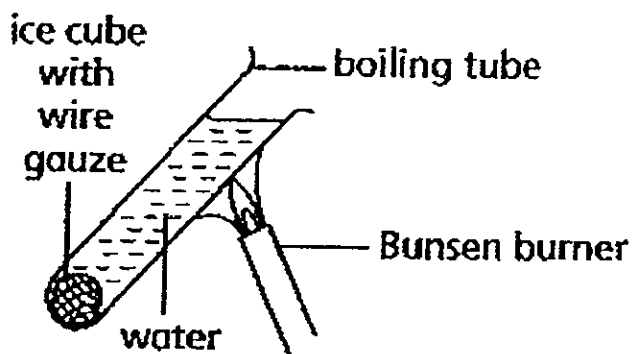
- 43 Phil conducted an experiment with a beaker containing 100ml of boiling water. He measured the temperature of the water at the various intervals as shown in the flowchart below.

Complete the flowchart by filling the answers for (a) and (b).

[2]



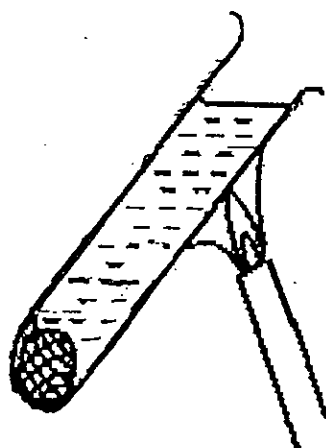
- 44 Mr Tan wrapped an ice cube with wire gauze and placed it in a test tube filled with water. The test tube was then heated at the top as shown below.



After a few minutes, the water at the top of the test tube started to boil but the ice cube at the bottom did not melt.

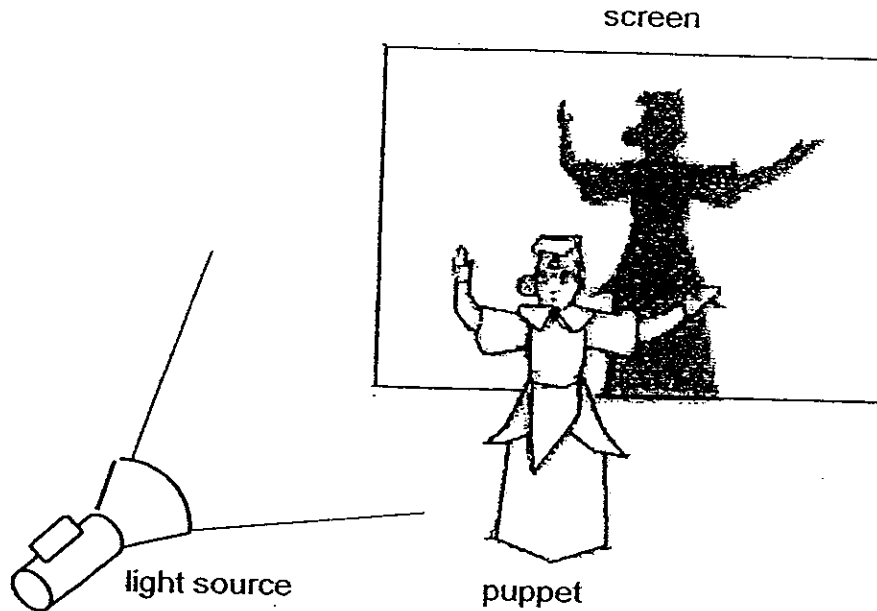
- (a) What does the above experiment show about the thermal conductivity of water?

- (b) Tiny water droplets were seen forming on the boiling tube.
Draw in the diagram below where you would expect to see tiny water droplets. ~~X~~



(Go on to the next page)

- 45 Linda shone a torch on the puppet. The shadow of the puppet was cast on a screen as shown in the diagram below.



A set of variables were measured and the results were recorded in the table below.

Distance from the light source to the puppet (cm)	Height of the shadow of the puppet on the screen (cm)
20	32
30	25
40	12

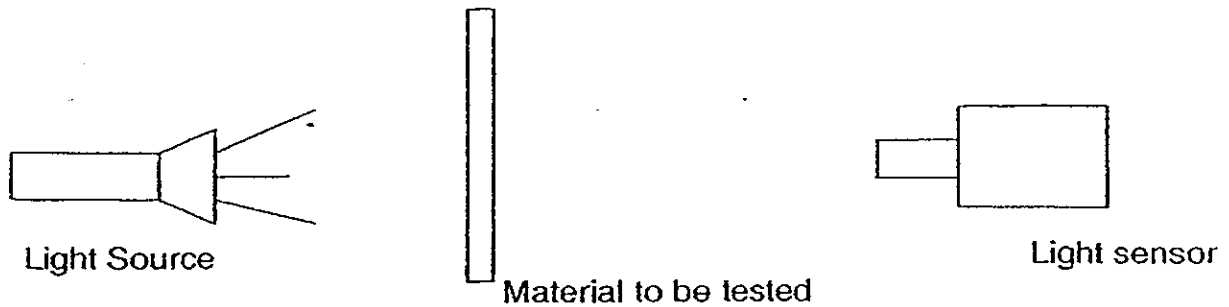
- (a) Based on the table, what is the relationship between the distance from the light source to the puppet and the height of the shadow of the puppet on the screen? [1]

- (b) List 2 variables that were kept the same in the above experiment. [1]

(i) _____

(ii) _____

- 46 Lily conducted an experiment on four materials A, B, C and D. A light sensor was used to pick up the amount of light that passed through the materials. The four materials were of the same size and thickness.



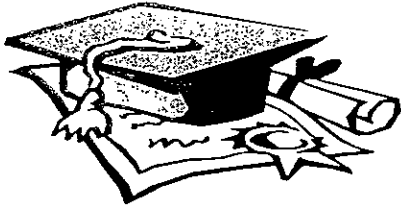
The results were recorded in the table below.

Material	Amount of Light picked up by the light sensor (units)
A	7
B	5
C	10
D	3

- (a) Arrange the materials A, B, C and D in descending order of transparency. [1]

- (b) Which material should Lily choose to make blinds for her bedroom? Support your answer. [1]

End of paper



ANSWER SHEET

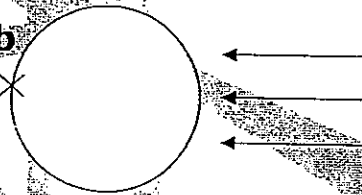
EXAM PAPER 2008

SCHOOL : ROSYTH PRIMARY SCHOOL
 SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
1	3	3	2	1	1	3	3	3	4	1	2	3	1	1	2	2
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30				
1	1	4	3	2	4	3	2	2	4	3	1	2				

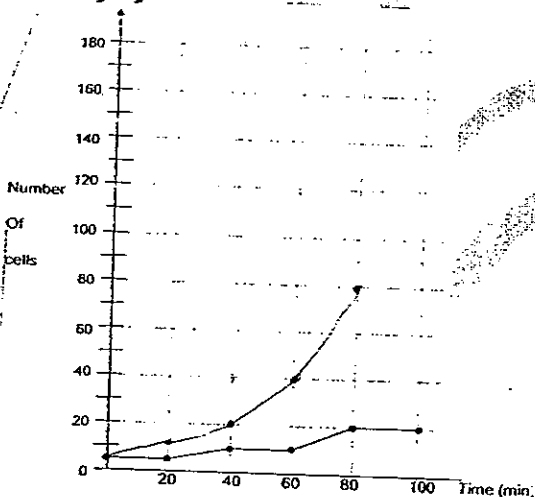
31)a,b



32)a) It has chloroplast.
 b) Cell wall.

33)a) To see the cell.
 b) To enables parts of the cell to be seen clearly.
 c) To flatten the specimen.

34)a)



- 34)b) There will be 160 bacteria cells.
c) 40 min.

35)a)



b) They are single celled.

- 36)a) testes b) one Egg cell is produced one at a time.

- 37)a) F b) F c) Not d) T

38)a) Fertilisation and the eggs hatched into baby salmon.

b) The male and the female duck have to mate together.

c) Internal Fertilisation

Internal Fertilisation

Human
Duck

Salmon

39)a) There is no warmth.

b) Sunlight

40)a) Insects attracted to sweet scent or both sucks nectar and collect pollen grains from anther goes to another Flower to collect more nectar, sucks nectar and deposits the pollen grains stigma of another flower.

b) Wind pollinated Flower has long anthers and Feathery stigma.

41)a) To find out if the length of wingspan affects the distance.

b) 1) The wingspan of the shored traveled by shored.

2) Distance it fly.

42)a) X: Oxygen Y: Carbon dioxide

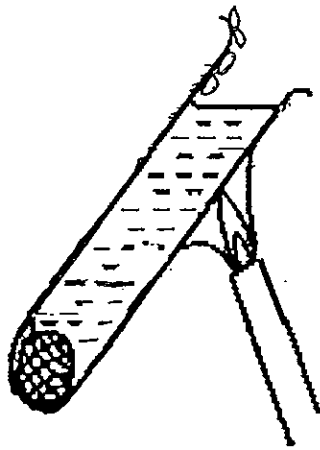
b) A: Photosynthesis and respiration B: Respiration

43)a) 50°C

b) 0°C

44)a) Water is a poor conductor of heat.

b)



45)a) The nearer the light source to the puppet the higher the shadow is.

b) The distance between the puppet and the screen.

46)a) C, A, B, D

b) D. The amount of light picked up by the light sensor is the lowest thus it will block out the most sunlight.