



Anglo-Chinese School (Primary)

P5 SCIENCE 2008
SA1 (MID-YEAR) EXAMINATION
BOOKLET A

Name: _____ () Class: Primary 5 _____

Date: 9 May 2008

Duration of paper: 1h 45 min

Parent's/Guardian's signature

THIS BOOKLET CONTAINS 24 PAGES.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART I

For each of the following questions 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.

(30 x 2 marks)

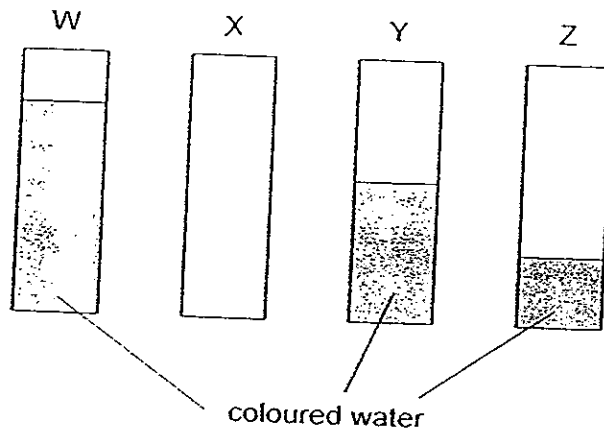
1. Study the classification table below. The animals in the classification table have been grouped according to their method of reproduction.

Group A	Group B
Kangaroo	Ostrich
Lion	Crocodile
Scaly anteater	Eagle
Giraffe	Owl

Which one of the following animals is classified wrongly?

- (1) Lion
- (2) Owl
- (3) Eagle
- (4) Scaly anteater

2. Yusof dipped four strips (W, X, Y and Z) of different materials into some coloured water. The diagram below shows the level of coloured water absorbed by each strip.



He then wrote down some statements based on his observations above:-

- A Material Y is waterproof.
- B Material X can be made into a raincoat.
- C Material W can be made into a towel.
- D Material Z absorbs the most coloured water.

Which of the statement(s) about the experiment is/are supported by his observations above ?

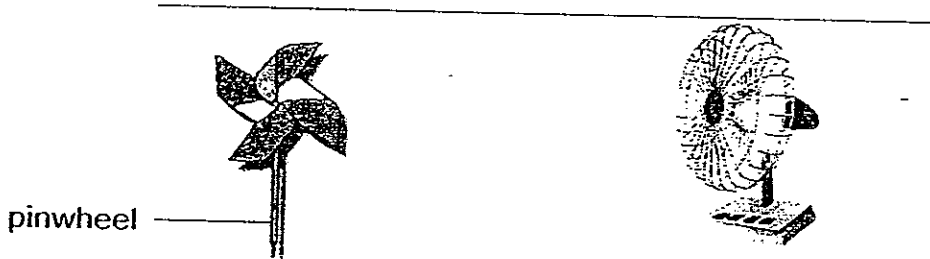
- (1) A only
- (2) B and C only
- (3) A and B only
- (4) A, C and D only

3. Animal X is put in a container with tiny holes on its cover. It is given three kinds of food – leaves, flies and sunflower seeds. After four days, the amount of food left is recorded in the table shown below.

Day	Leaves	Flies	Sunflower seeds
1	20g	22	100g
2	20g	15	100g
3	20g	8	100g
4	20g	3	100g

Animal X is likely to be a _____.

- (1) bee
 - (2) lizard
 - (3) caterpillar
 - (4) grasshopper
4. Natasha wanted to carry out a fair test to find out if pinwheels made of different materials would spin at different speeds. She set up the experiment as shown below.



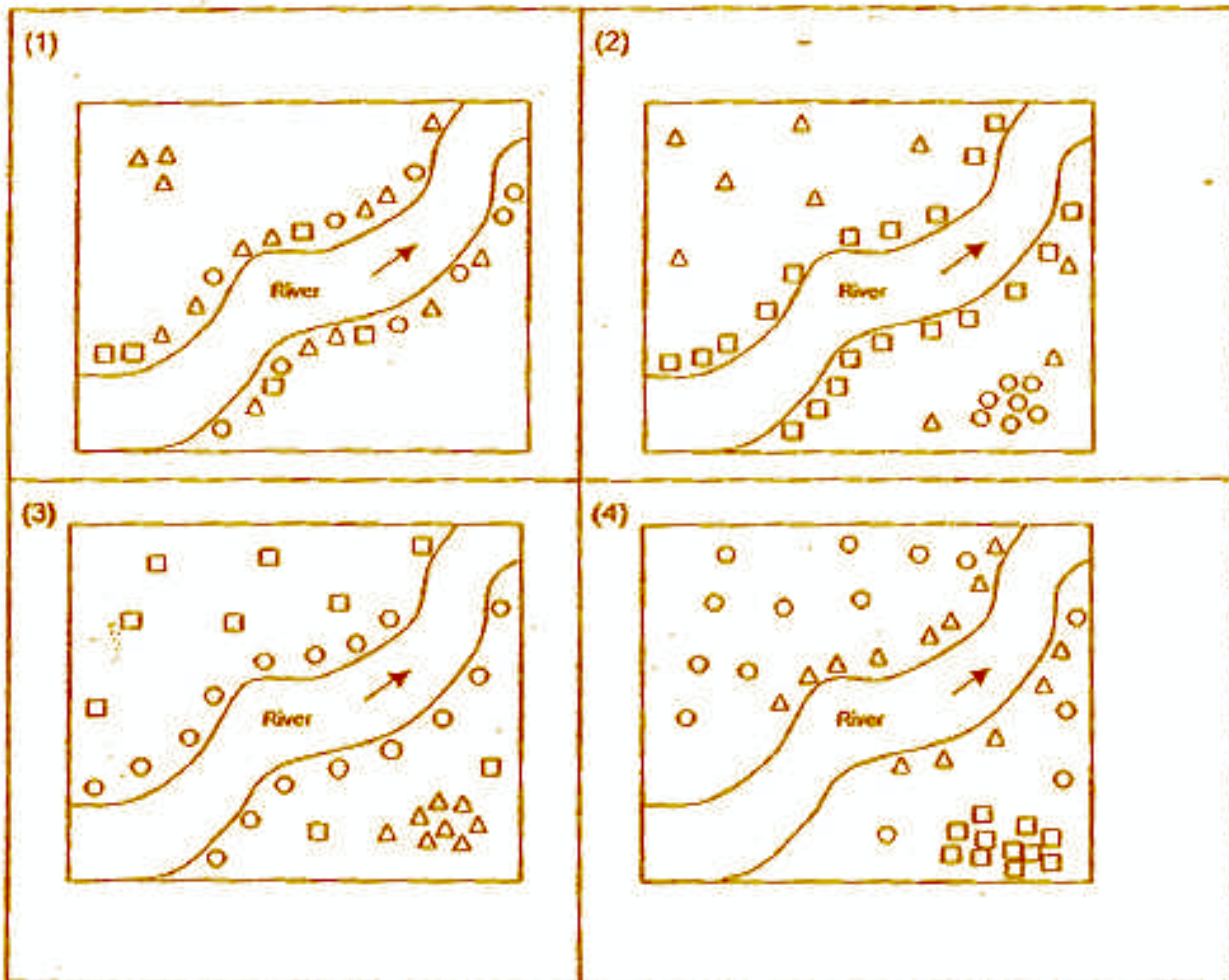
Which of the following variables should she keep the same, which variables should she change and which variables do not affect the result of her experiment?

	Keep the same	Change	Does not affect
(1)	Material of pinwheel	Distance between pinwheel and fan	Pinwheel design
(2)	Distance between pinwheel and fan	Material of pinwheel	Colour of pinwheel
(3)	Colour of pinwheel	Pinwheel design	Speed of fan
(4)	Pinwheel design	Speed of fan	Distance between pinwheel and fan

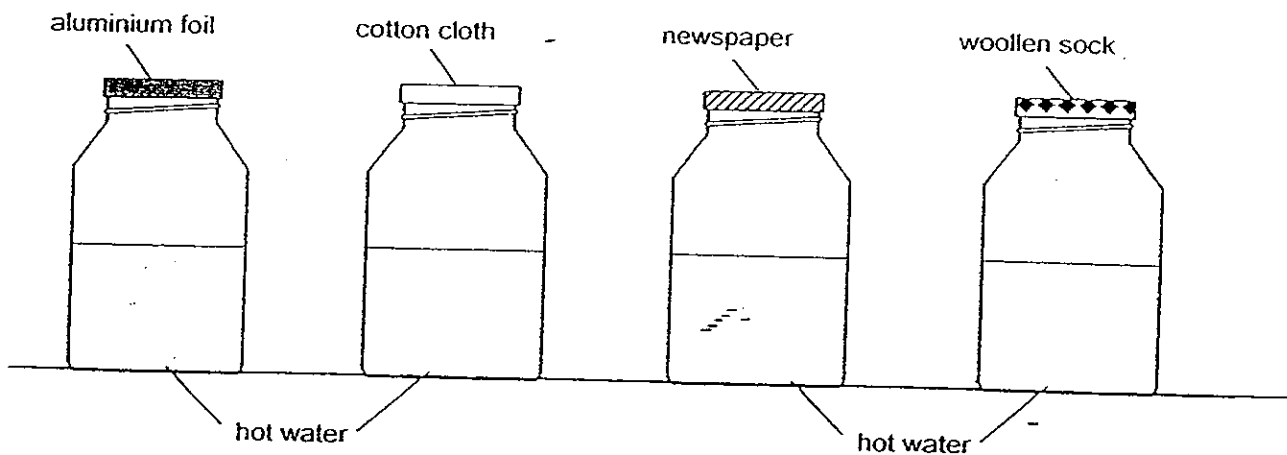
5. The map below shows the population of plants in an area in 1997. The arrow indicates the direction of water flow.



Given that Plant P disperses by wind, Plant Q disperses by water and Plant R disperses by splitting action, which one of the following maps most likely represents the population of plants in the same area in 2005?



6. Aniq used four identical jars and poured equal amounts of hot water into each jar. He took the temperature of the water in each jar and then covered each jar with different materials. The set up of his experiment is shown below.



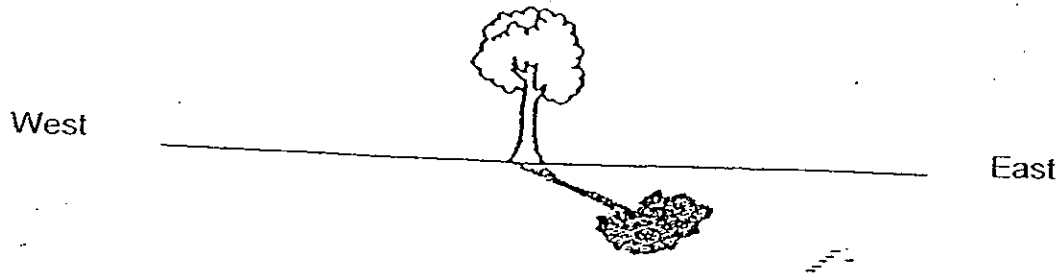
After 30 minutes, Aniq uncovered the jars and took the temperature of the water in each jar again. He then tabulated his results as shown below.

Temperature of water in each jar (°C)				
	Bottle with aluminium foil cover	Bottle with cotton cloth cover	Bottle with newspaper cover	Bottle with woollen sock cover
At the start of experiment	100	100	100	100
At the end of experiment	62	78	70	87

What can Aniq conclude about his experiment?

- (1) The newspaper keeps the most amount of heat in the jar.
- (2) The woollen sock is the best heat insulator of the four materials.
- (3) The cotton cloth keeps heat in better than the woollen sock.
- (4) The aluminium foil is the best heat insulator of the four materials.

7. The diagram below shows the shadow of a tree which was recorded at 2.00 p.m.

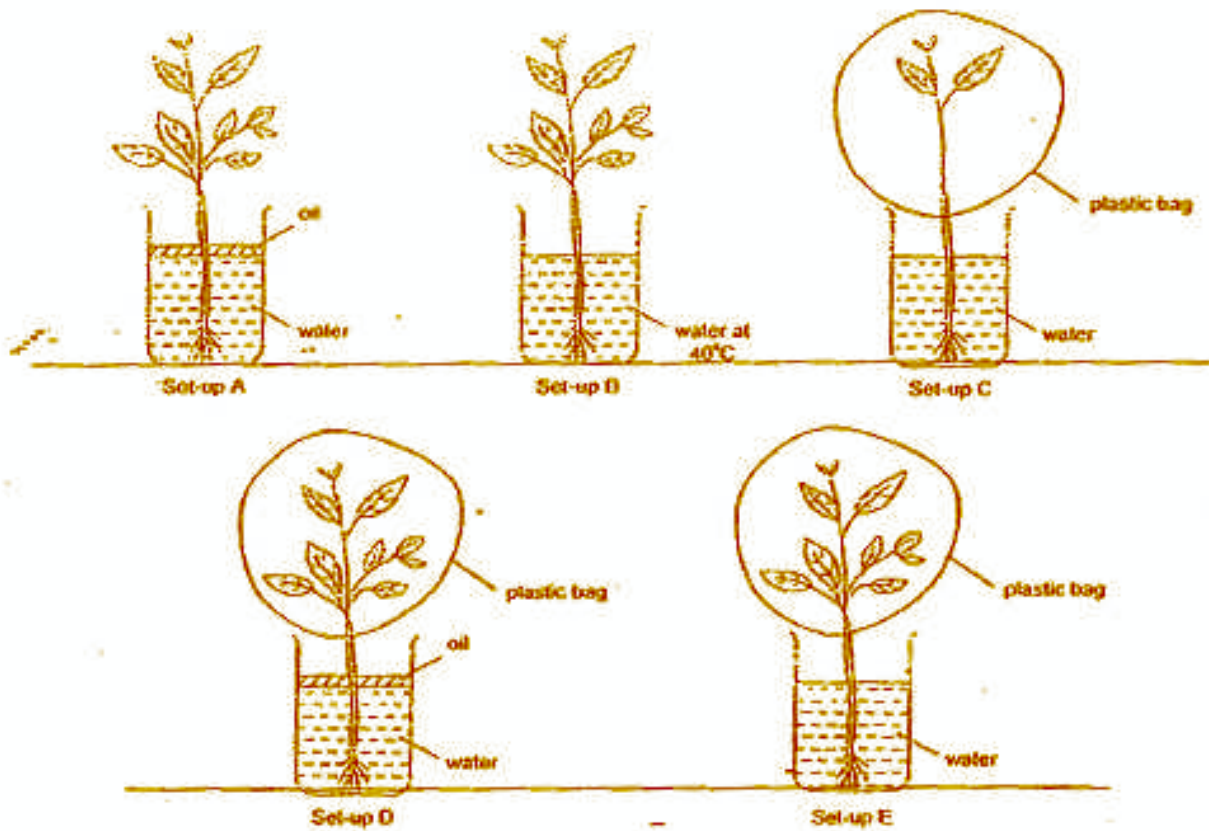


Which of the following statement(s) is/are true about shadows and how they are formed?

A	The Sun revolves around the Earth to cast the shadow.
B	The length of the shadow is determined by the Moon's orbit around the Earth.
C	The Sun will cast a similar shadow at about the same position in 12 hours' time.
D	The Earth rotates on its own axis. As a result, the sun appears to 'move' across the sky and the shadow forms in this way.

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

8. James wanted to conduct an experiment to find out if plants need air. Which of the set-ups below should he use in order to conduct a fair test?



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

9. The table below shows information about some of the planets in our solar system.

Planet	Mercury	Venus	Earth	Mars	Jupiter	Saturn
Distance from the Sun (million km)	58	108	150	228	778	1427
Time taken to make one revolution around the Sun	88 days	225 days	365 days	687 days	12 years	29 years

Two new planets, Planet X and Planet Z, have been discovered. Planet X is discovered **between Mercury and Venus**, while Planet Z is discovered **between Jupiter and Saturn**. Which one of the following information is most likely to represent the two new planets respectively?

	Planet X		Planet Z	
	Distance from the Sun (million km)	Time taken to make one revolution around the Sun	Distance from the Sun (million km)	Time taken to make one revolution around the Sun
(1)	76	105 days	987	18 years
(2)	88	200 days	850	3 years
(3)	987	18 years	76	105 days
(4)	110	230 days	1430	35 years

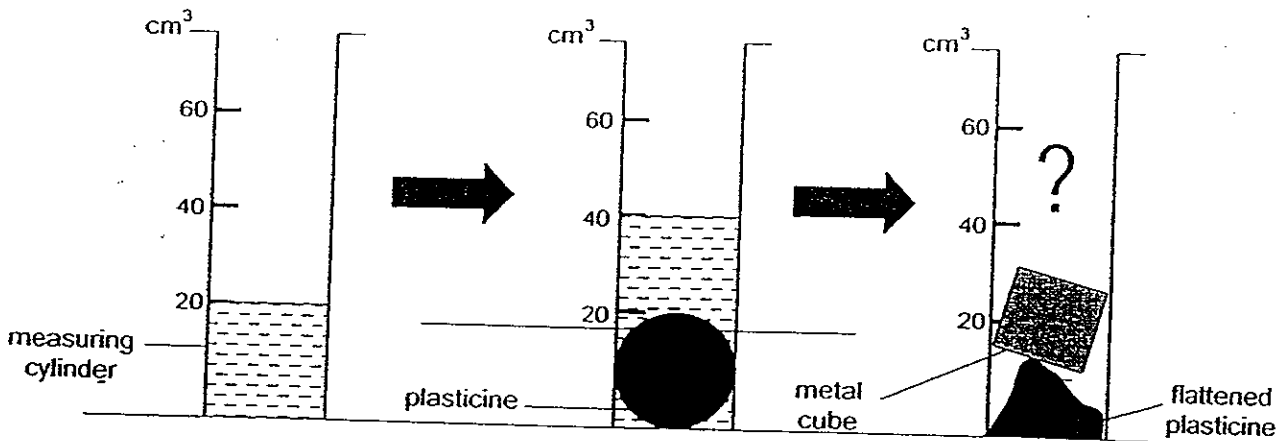
10. Ken works at the Bukit Timah Satellite Earth Station. The following table describes how he uses four different satellites while working at the base.

Satellite	How Ken uses the satellite
A	Calls his colleagues in Europe
B	Watches 'live' news reports
C	Monitors the movement of a typhoon
D	Tracks the movement of meteors in space

Which one of the following is true of how the satellites have been used above?

		Satellite			
		A	B	C	D
(1)	space research	television broadcast	telecommunication	weather forecast	television broadcast
(2)	telecommunication	space research	weather forecast	television broadcast	weather forecast
(3)	space research	weather forecast	television broadcast	telecommunication	weather forecast
(4)	telecommunication	television broadcast	weather forecast	space research	television broadcast

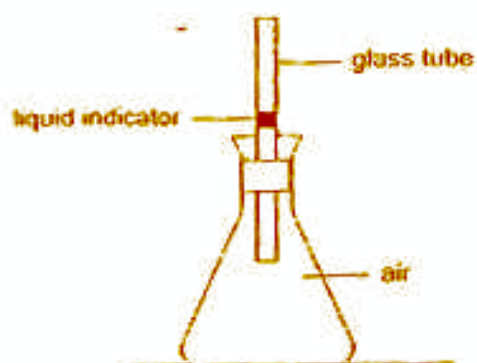
11. Jack filled a measuring cylinder with 20 cm^3 of water. He then placed a ball of plasticine into the cylinder and noted the new height of the water. After that, he took out the plasticine, flattened it and returned it into the cylinder. Finally, he put in a metal cube that has a volume of 15 cm^3 and noted the new height of the water. The 3-step set up is shown below.



What will the final reading on the measuring cylinder be?

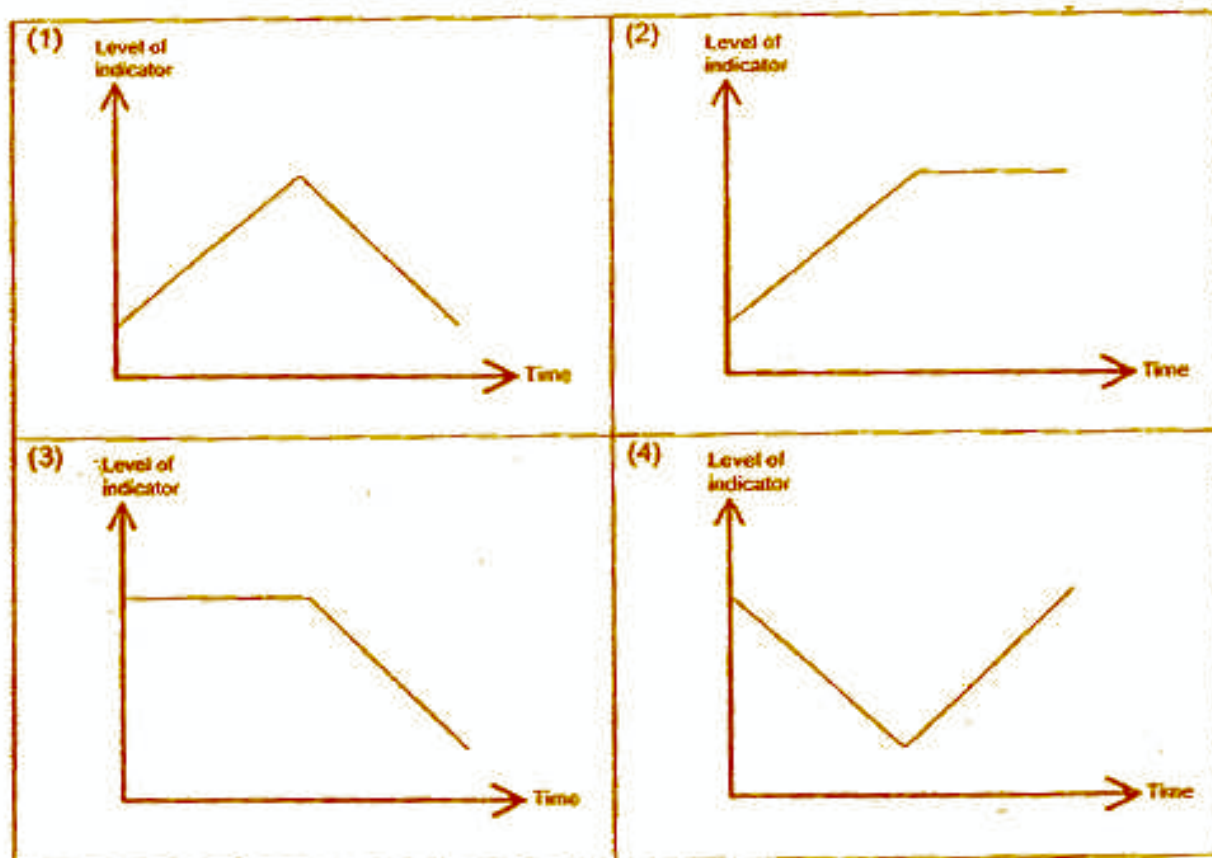
- (1) 20 cm^3
- (2) 35 cm^3
- (3) 45 cm^3
- (4) 55 cm^3

12. Gladys wanted to find out how air in a flask can expand or contract. She placed the following set-up in an air-conditioned Science laboratory and noted the location of the liquid indicator in the glass tube.



She then transferred it to her classroom and left it there for 10 minutes. After that, she brought it back to the same Science laboratory.

Which one of the following graphs shows the correct levels of the indicator when she brought the set-up from the Science laboratory to her classroom and back to the Science laboratory?



13. Study the classification table below. A, B, C and D are the headings for each group.

A	B	C	D
Water stick insect	Bird's nest fern	Examination pad	Aluminium foil
Elephant	Frangipani	Wooden chopsticks	Gold coin
Seal	Flame of the forest	Paper cup	Iron rod

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

	A	B	C	D
(1)	Insects	Non-flowering plants	Paper products	Metal products
(2)	Animals	Plants	Things that were once alive	Things that are never alive
(3)	Mammals	Flowering plants	Living things	Non-living things
(4)	Cannot photosynthesise	Can photosynthesise	Things that are never alive	Things that were once alive

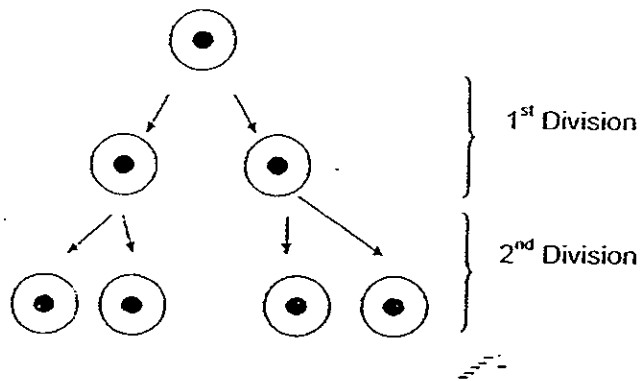
14. The following plants are grouped according to how they reproduce.

Group A	Group B
Rambutan	African violet
Pong pong	Begonia
Flame of the forest	Angsana

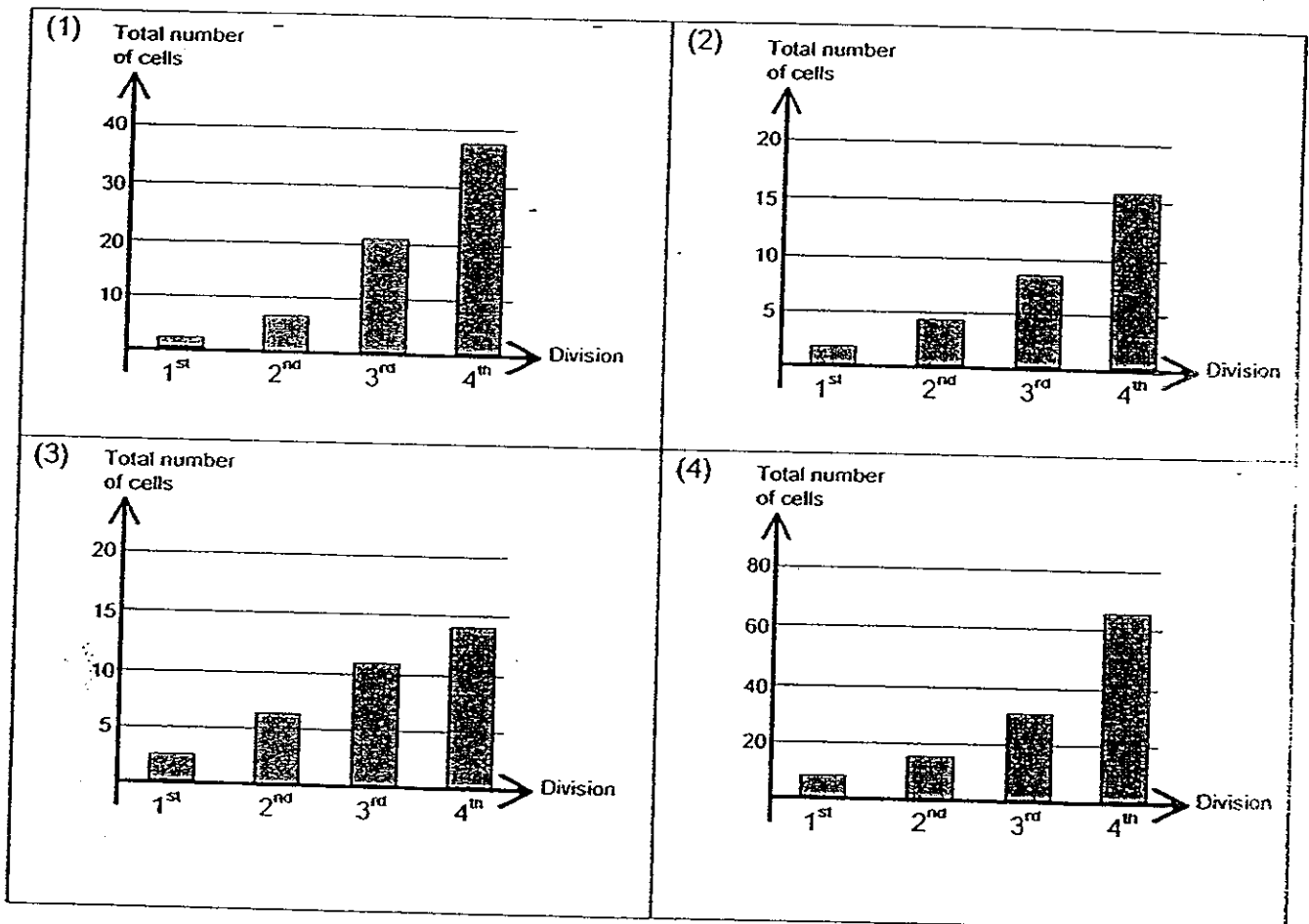
Which plant has been placed in the wrong group?

- (1) Angsana
- (2) Pong pong
- (3) African violet
- (4) Flame of the forest

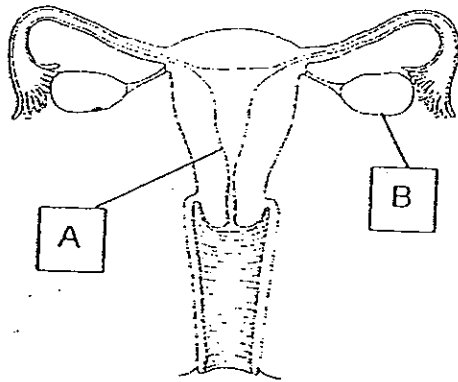
15. The following diagram shows the cell division of a single-celled organism.



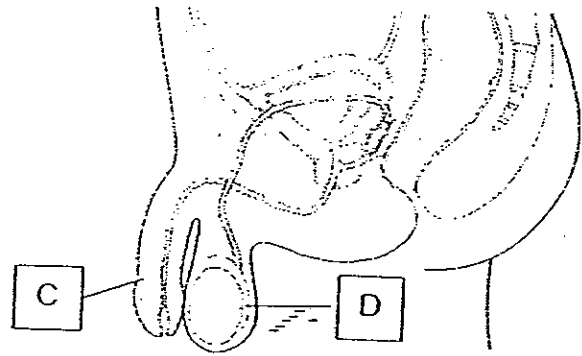
Which one of the following graphs correctly shows the total number of cells present up to the 4th division? The graphs are not drawn to scale.



16. Study the diagrams below carefully.



Front view of the female reproductive system

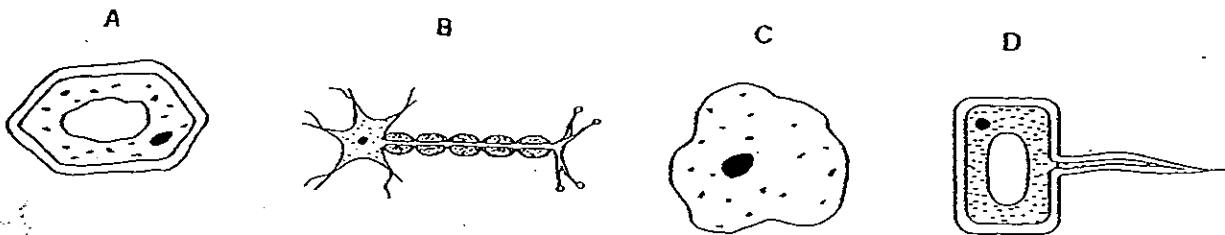


Side view of the male reproductive system

Which one of the following statements is correct?

- (1) Fertilisation takes place in A.
- (2) A and C produce the reproductive cells.
- (3) The reproductive cells in B are produced in large numbers.
- (4) The reproductive cells in D are produced in small numbers.

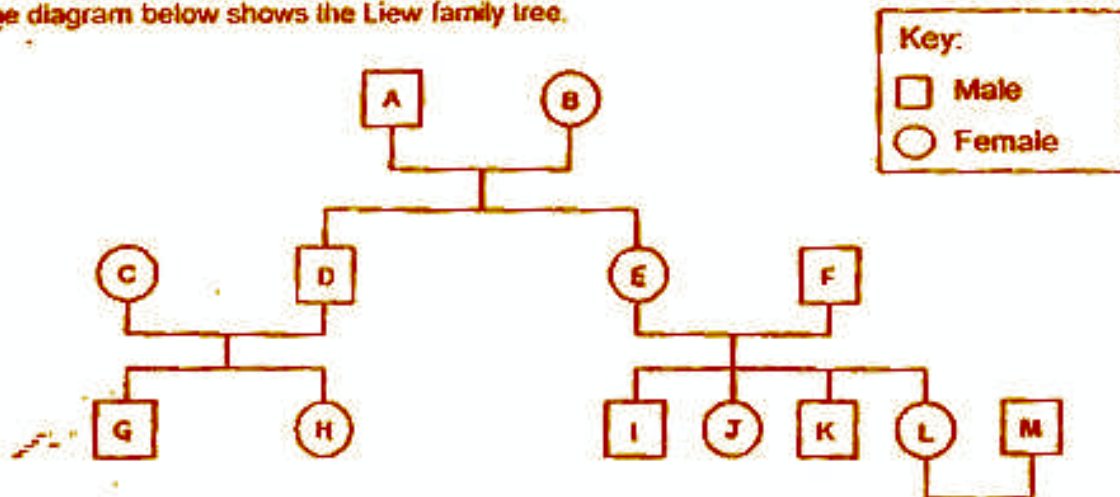
17. The following diagram shows the cells of four organisms.



Which of them come from organisms that are most likely plants and can make their own food?

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

18. The diagram below shows the Liew family tree.



The following are information on the Liew family.

- Bernice, who is married, has one sister and two brothers.
- Alice's aunt has four children.
- Robert has three grandsons.
- Alfred is Bernice's cousin.

Which of the letters correctly represent the Liew family members based on the information above?

	Bernice	Alice	Robert	Alfred
(1)	L	C	D	K
(2)	J	G	F	H
(3)	L	H	A	G
(4)	M	H	B	L

19. Joseph prepared three specimens of the angšana fruit as shown below to determine how the wing-like structure of an angšana fruit affects the duration it remains in the air.

Fruit A



Fruit B



Fruit C



For each fruit, he held it from a distance above the ground, dropped it and then noted the time taken for it to reach the ground. He repeated his experiment 4 times for each fruit. His observations are shown below.

Which one set of results below could most likely have been obtained from the experiment above?

(1)

Test	Time (in seconds)		
	Fruit A	Fruit B	Fruit C
1	5.2	5.1	5.2
2	5.3	5.2	5.3
3	5.1	5.3	5.2
4	5.2	5.2	5.1

(2)

Test	Time (in seconds)		
	Fruit A	Fruit B	Fruit C
1	5.1	3.5	6.0
2	5.3	3.3	6.1
3	5.2	3.5	6.0
4	5.2	3.6	5.9

(3)

Test	Time (in seconds)		
	Fruit A	Fruit B	Fruit C
1	3.5	6.0	5.1
2	3.3	6.1	5.3
3	3.5	6.0	5.2
4	3.6	5.9	5.2

(4)

Test	Time (in seconds)		
	Fruit A	Fruit B	Fruit C
1	6.0	5.1	3.5
2	6.1	5.3	3.3
3	6.0	5.2	3.5
4	5.9	5.2	3.6

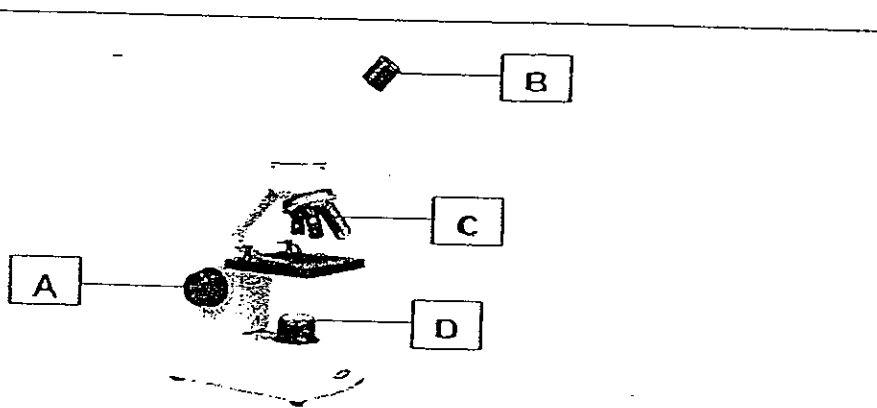
20. The table below shows the physical descriptions of four boys.

Name	Description
Andy	Has pimples
Bob	Has double eyelids
Charlie	Has short hair
Danny	Has attached earlobes

Which boy(s) inherited traits from their parents?

- (1) Andy only
- (2) Charlie and Danny only
- (3) Bob and Danny only
- (4) Bob and Charlie only

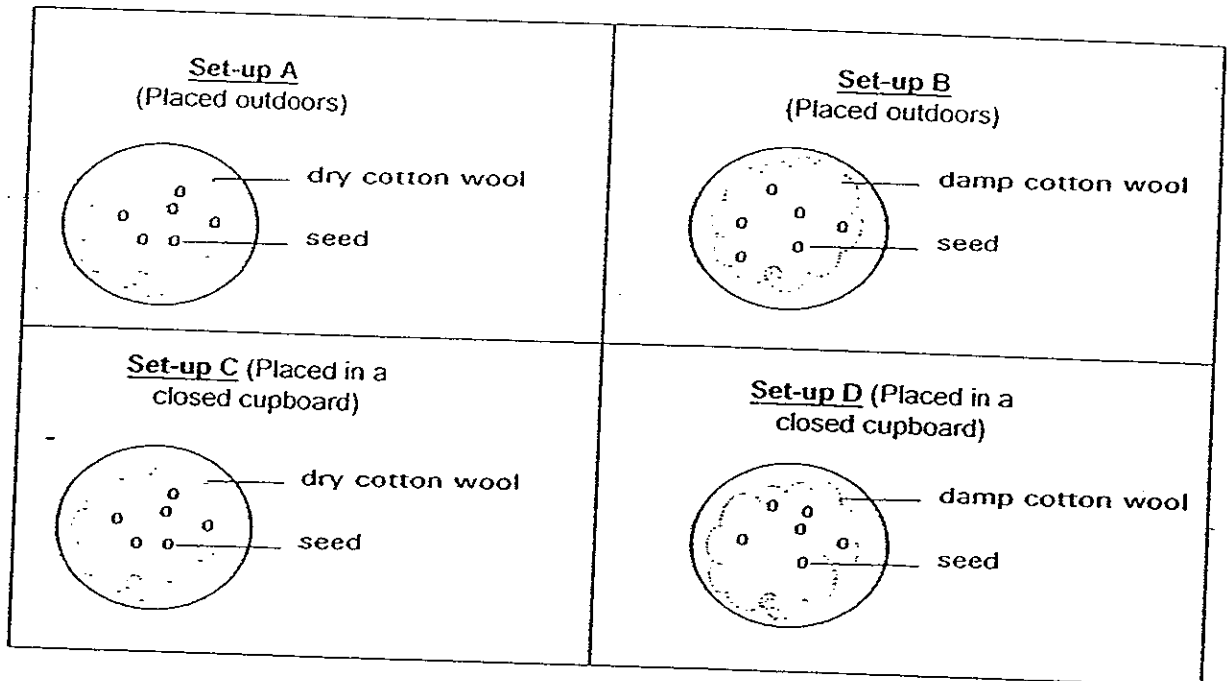
21. The following diagram shows a microscope.



Maria placed a slide of plant cells on the stage of the microscope but could only see a blurred image from the eyepiece. Which part(s) of the microscope should she adjust so that she could see a sharp image of the plant cells?

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

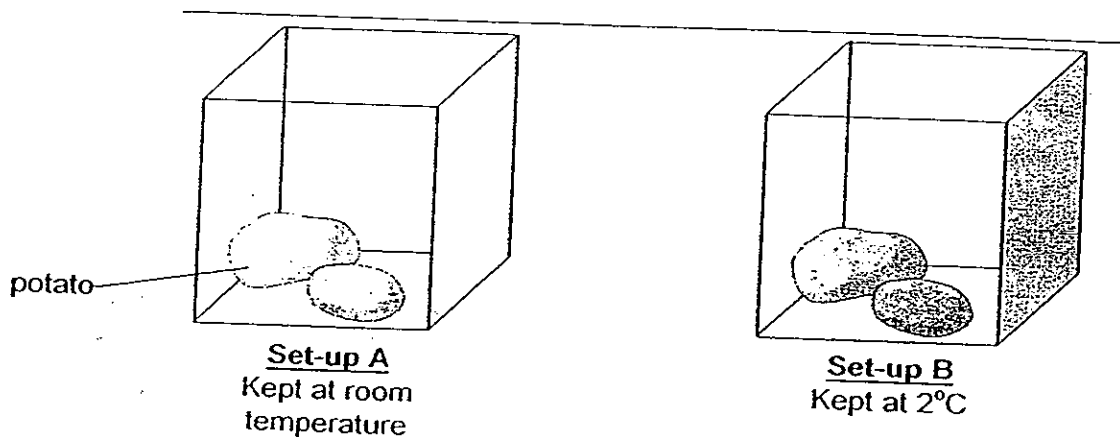
22. Ruby prepared four different set-ups to see if seeds need water and light to germinate. At the end of the experiment, she found that the seeds grew into seedlings in only some of the set-ups. The set-ups are shown below.



What should she record after the experiment in order to arrive at a fair conclusion?

- (1) The colour of the seed
- (2) The amount of cotton wool used
- (3) The dampness of the cotton wool
- (4) The number of seeds that have germinated

23. Osman conducted an experiment with potatoes as shown in the diagrams below.



After 3 days, he took the potatoes out and tested them for the presence of starch by using iodine solution. If starch is detected, the pale brown iodine solution turns dark blue. If no starch is detected, the iodine solution does not change its colour. The following table shows the results of his iodine test.

Potatoes in set-up	Result of iodine test
A	Turns iodine dark blue
B	Does not turn iodine dark blue

What was the aim of Osman's experiment?

- (1) To find out if potatoes contain starch.
- (2) To find out if potatoes shrink at low temperatures.
- (3) To see if potatoes can reproduce at low temperatures.
- (4) To find out the effect of temperature on the amount of starch detected in potatoes.

24. Alistair wanted to find out if light is necessary for the germination of bean seeds. He set up the following experiments as shown in the table below.

Variables	Set-up A	Set-up B	Set-up C	Set-up D	Set-up E
Number of beans	10	10	9	10	9
Type of soil	Garden soil	Sand	Clay	Sand	Clay
Location	In the sun	Dark cupboard	In the sun	In the sun	Dark cupboard
Amount of soil	130cm ³	120cm ³	130cm ³	120cm ³	130cm ³
Size of pot	Medium	Small	Small	Small	Large

Which pair of the set-ups above should he use in order to conduct a fair test?

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

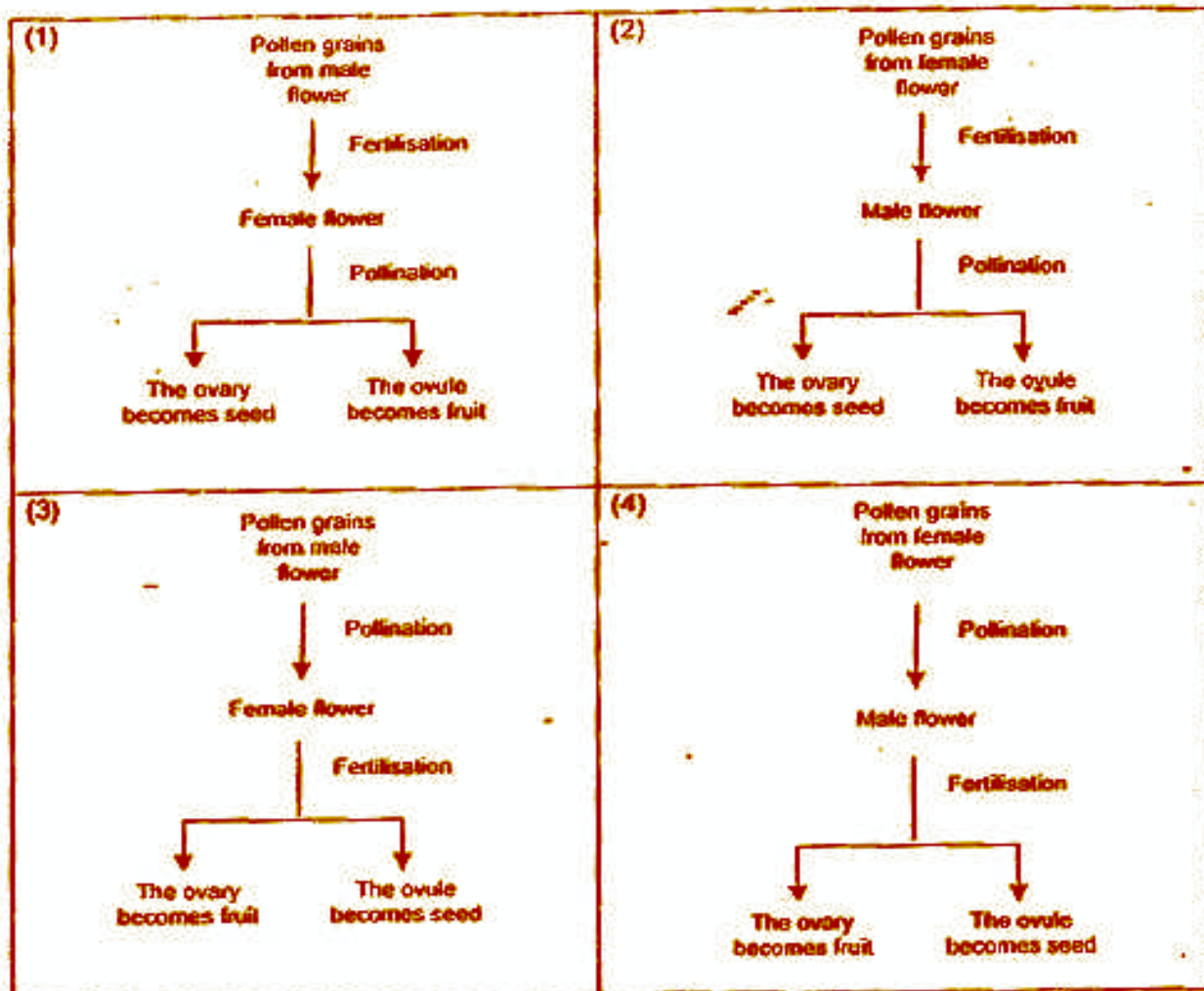
25. Study the table below. X and Y represent the headings for the two groups in the table.

X	Y
Bacteria	Onion
Yeast	Duckweed
Paramecium	Elephant

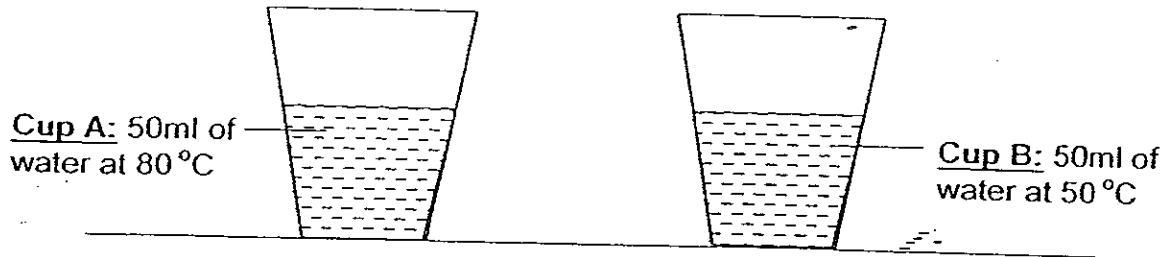
What could X and Y be?

	X	Y
(1)	Fungi	Plants
(2)	Micro-organisms	Animals
(3)	Single-celled organisms	Multi-cellular organisms
(4)	Does not respond to changes	Responds to changes

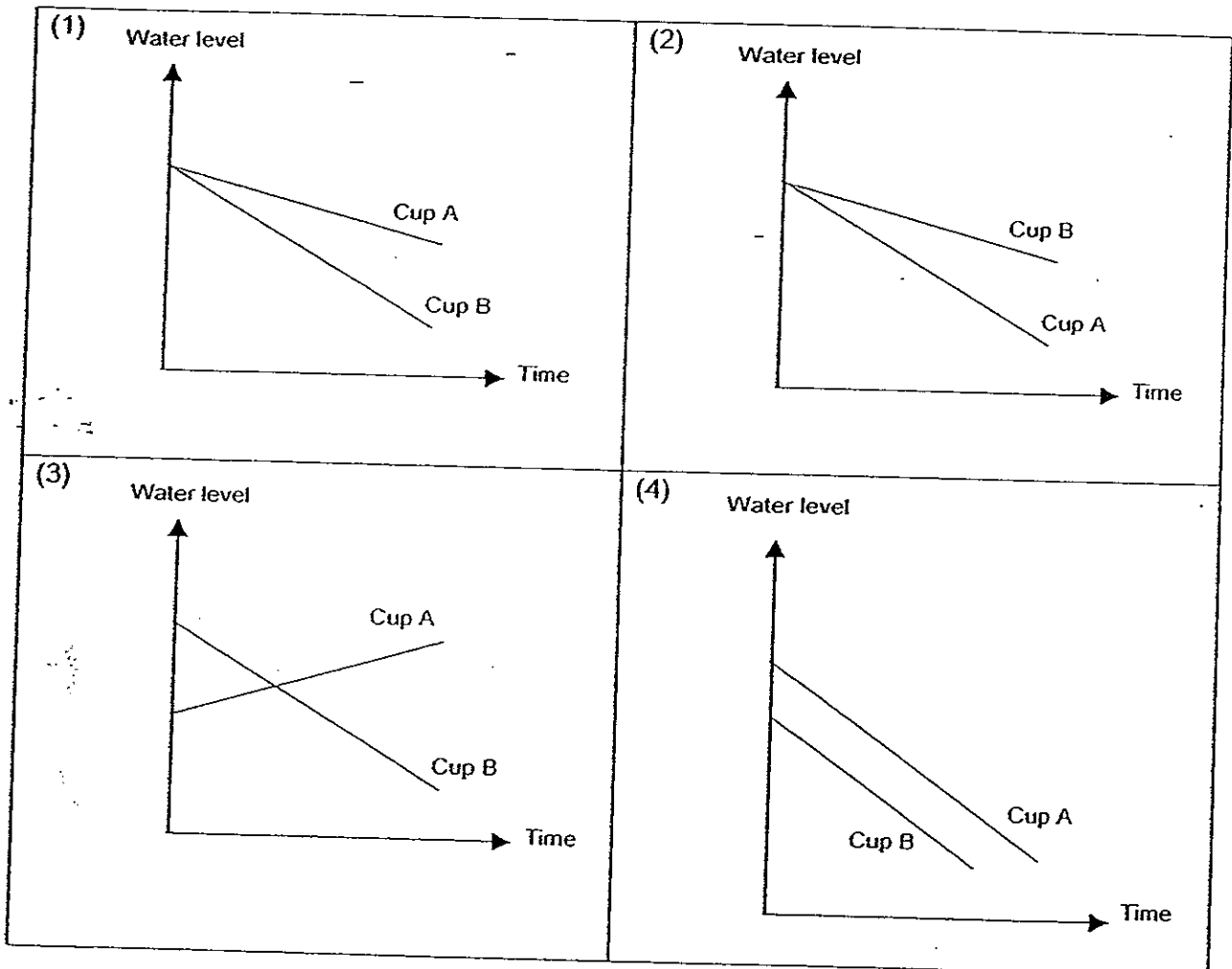
26. Which one of the following diagrams is correct?



27. Bryan wanted to find out if water at different temperatures would evaporate at different rates. He set up the experiment as shown below.



Which one of the following graphs correctly shows the change in water levels for both cups after some time?

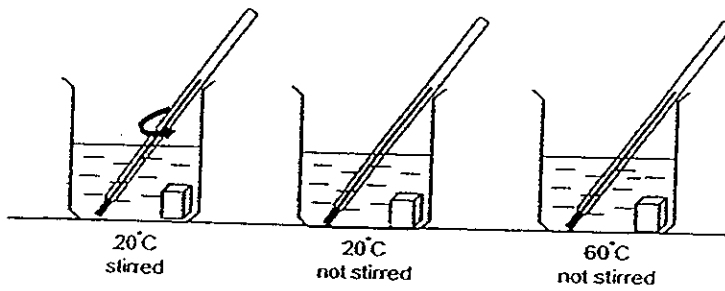


28. Fifteen cockroaches were put in an enclosed tank for an hour.

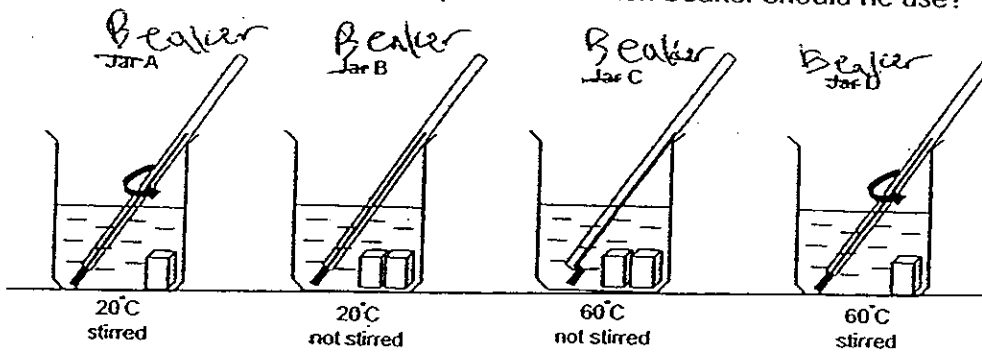
Which one of the following shows how the amount of gases in the tank changed after an hour?

	Water vapour	Carbon dioxide	Oxygen
(1)	No change	Increase	Decrease
(2)	Increase	Increase	No change
(3)	Decrease	No change	Increase
(4)	Increase	Increase	Decrease

29. Simon wanted to find out how temperature and stirring affect the rate at which sugar cubes dissolve in water. He set up three beakers as shown below.

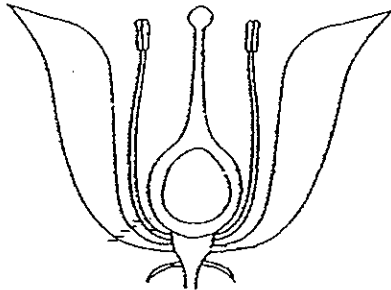


Simon needs one more beaker for his experiment. Which beaker should he use?

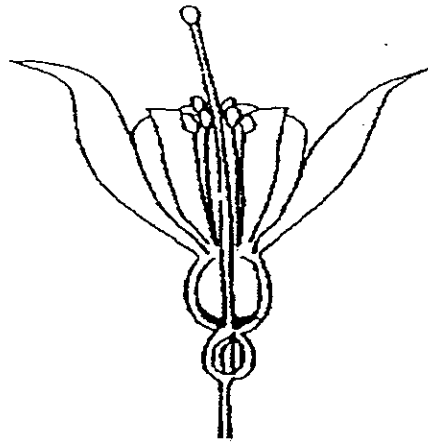


- (1) Beaker A
- (2) Beaker B
- (3) Beaker C
- (4) Beaker D

30. Study the cross-section of the flowers shown below.



Flower A



Flower B

Which of the following statement(s) is/are true of the flower(s) above?

- A Only Flower A can develop into a fruit.
 - B Flower A has male reproductive organs only.
 - C Flower B has female reproductive organs only.
 - D Both flowers have male and female reproductive organs.
-
- (1) A only
 - (2) D only
 - (3) B and C only
 - (4) A and D only

End of Part I. Please go on to Part II



Anglo-Chinese School (Primary)

P5 SCIENCE 2008

SA1 (MID-YEAR) EXAMINATION

BOOKLET B

Name: _____ ()

Class: Primary 5 _____

Date: 9 May 2008

Duration of paper: 1h 45 min

	Maximum Marks	Marks Obtained
Section A / Booklet A	60	
Section B / Booklet B	40	
Total	100	

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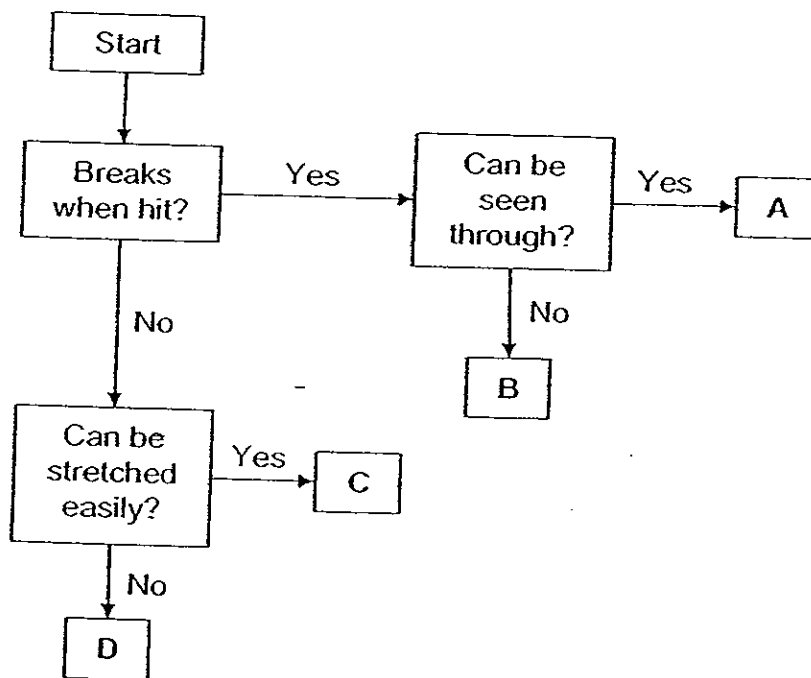
PART II

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

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

(40 marks)

31 The flow chart below is used to identify 4 materials namely: rubber, glass, metal and ceramic.



Fill in the table below to identify these materials.

[2]

	Material
A	
B	
C	
D	

32 The table below shows the information about planet Earth.

Distance from the Sun	150 million km
Time taken to make one revolution around the Sun	365 days

Scientists have discovered other planets outside our Solar System. These planets also revolve around their own Sun which is similar to ours. The table below shows the information about these planets W, X, Y and Z.

	Planets (outside our Solar System)			
	W	X	Y	Z
Distance from their Sun (million km)	36	158	391	802
Time taken to make one revolution around their Sun	125 days	225 days	369 days	693 days

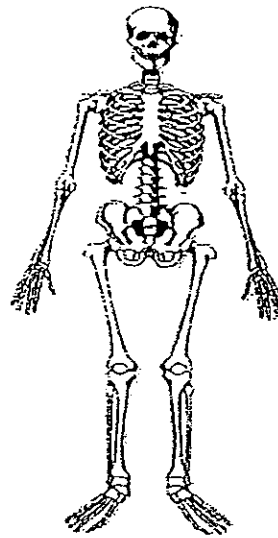
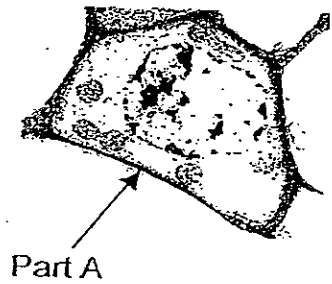
(a) With reference to the data in the above tables, which of these planets, W, X, Y or Z, may have a higher chance of supporting life similar to those on Earth? Give a reason for your answer.

[1]

(b) Name one more important factor which the planet you mentioned in (a) should have in order to support life.

[1]

33 The diagrams below show a plant cell and the human skeleton.



(a) What part of the plant cell is Part A?

[1]

(b) Explain how the function of Part A is similar to the function of the human skeleton.

[1]

- 34 John went for a cruise alone in his small boat. His boat's engine broke down and rescue will not reach him for the next few days. He had already consumed all food and water that is available on the boat.

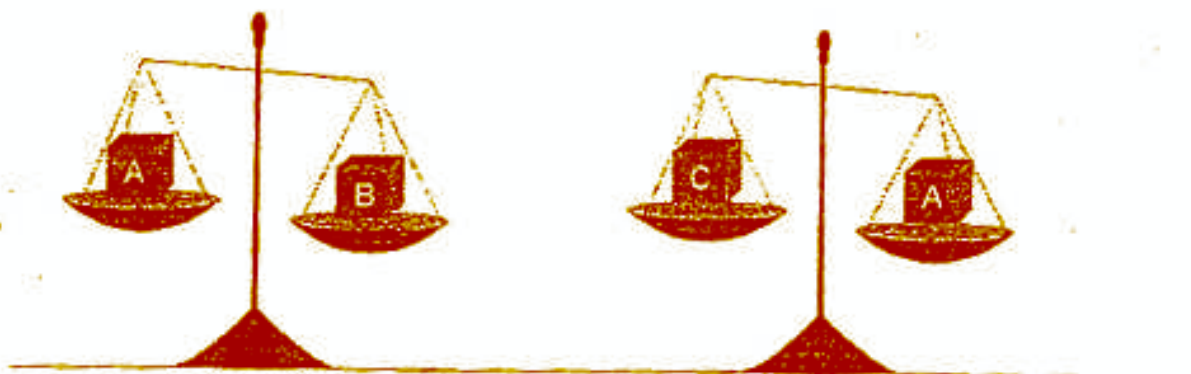
He remembered from his Science lesson that he could extract drinking water from seawater. He took the following items from the boat to make drinkable water from sea water:

- ✓ 1. Large glass container
- ✓ 2. Small cup
- ✓ 3. Plastic sheet
- ✓ 4. Sticky tape
- ✓ 5. A small stone



- (a) Help John complete the above setup by drawing and labelling where the plastic sheet, sticky tape, small stone and seawater should be placed. [2]
- (b) With reference to the above setup, name one process that is used to convert the seawater into drinkable water. [1]

- 35 Three solid objects, A, B and C are of the same size but made from different materials. They are weighed using a simple balance shown below.



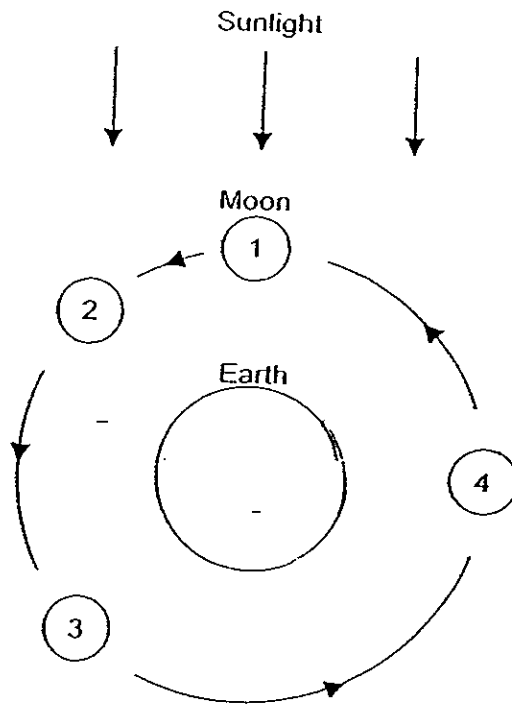
- (a) List the three objects from the heaviest to the lightest. [1]

- (b) You are told that the 3 objects are most probably made of metal, styrofoam and plastic. Complete the table below to identify what material each object is made of. [1]

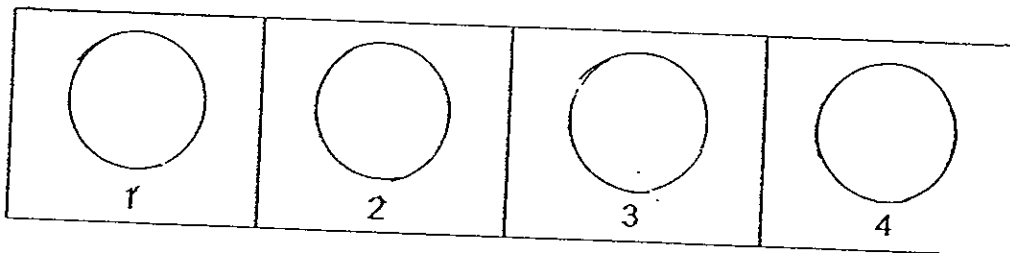
Material	Object
Metal	
Styrofoam	
Plastic	

- (c) Do all the objects occupy the same amount of space? Give a reason for your answer. [1]

- 36 The diagram below shows the Earth and the 4 possible positions of the Moon.

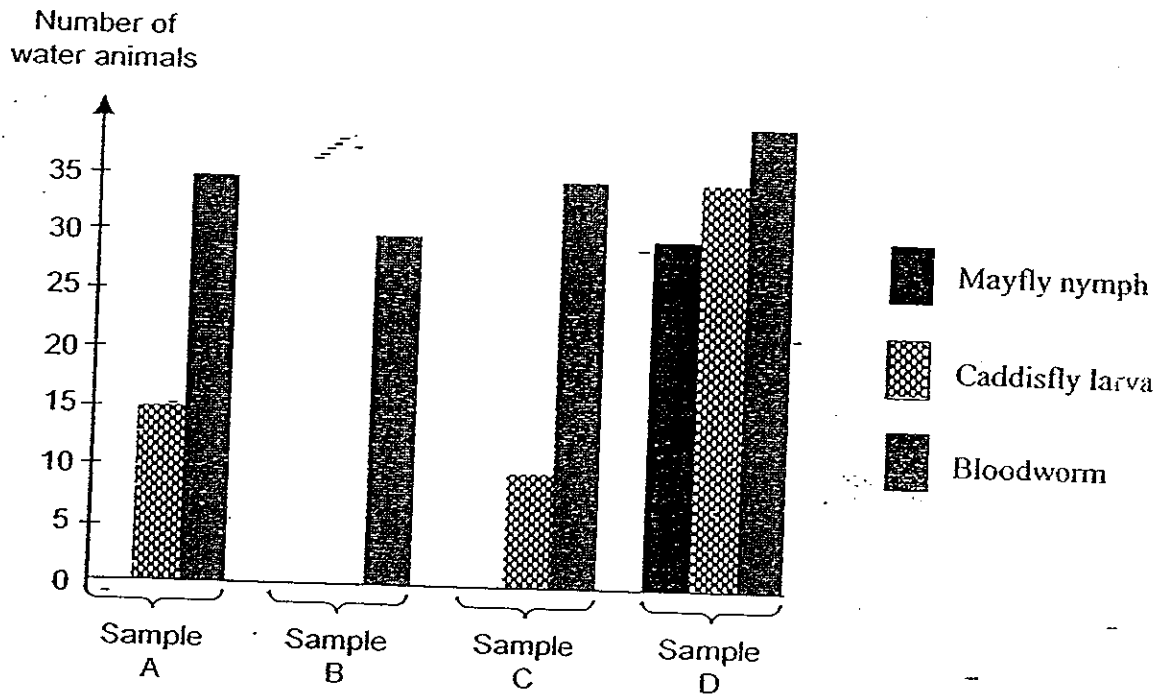


- (a) Shade the part of the Earth where night time occurs. [1]
- (b) Draw the appropriate Moon phases corresponding to the 4 positions when viewed from Earth. [2]



37 Darren wanted to investigate the pollution level of a stream in Singapore. He collected 4 samples of water from different locations of the stream and counted the number of animals (mayfly nymph, caddisfly larva and bloodworm) in the water.

He tabulated the results as shown below.



Using the information provided above, arrange the 4 samples of water (A, B, C and D) from the least polluted to the most polluted. [2]

Least polluted → Most polluted

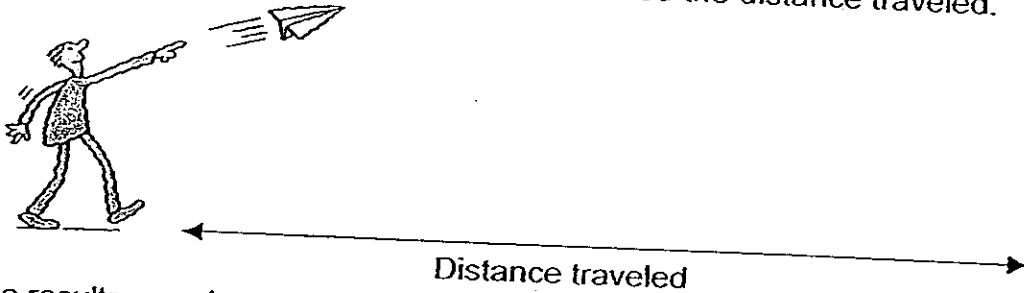
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38

Jun Jie wanted to find out how the mass of a paper aeroplane would affect the distance it can travel. He conducted the experiment using the following papers.

Paper	Type of Paper	Size of Paper	Mass of Paper
A	Photocopying paper	20 cm by 20 cm	30 g
B	Photocopying paper	20 cm by 30 cm	40 g
C	Photocopying paper	30 cm by 30 cm	50 g

One at a time, he threw the 3 aeroplanes with the same strength, in a straight line, in the same direction and recorded the distance traveled.



The results are shown in the table below.

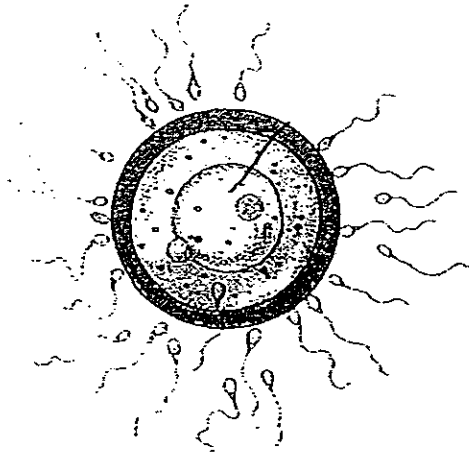
Paper	Distance Traveled
A	6.5 m
B	8.0 m
C	12.2 m

Jun Jie concluded that the heavier the paper, the further the aeroplane would travel.

- (a) Is his conclusion valid and reliable based on the information provided? Give a reason for your answer. [1]

- (b) Name two other factors that must be kept constant during the experiment. [2]

39 The diagram below shows the male and female reproductive cells.

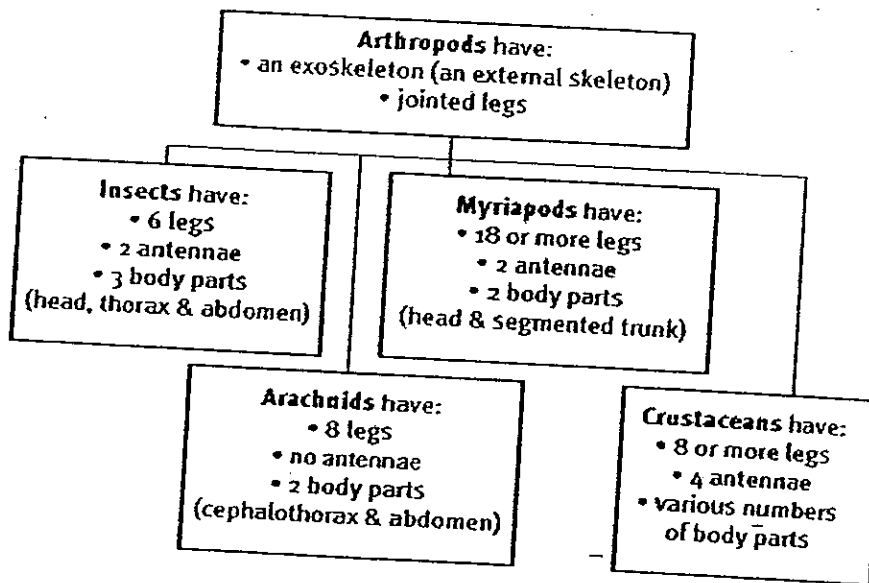


(a) Name the process that is taking place. [1]

(b) In which part of the female's body will it develop into a baby? [1]

(c) On the diagram, label and name the part of the female reproductive cell that controls all the activities in the cell. [1]

- 40 The classification chart below shows how different arthropods are classified. Arthropods have a hard exterior casing known as an exoskeleton, which they must shed in order to grow.



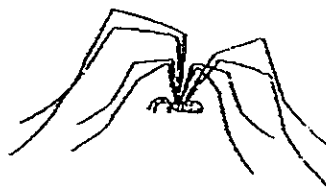
The diagrams below show 8 different arthropods.



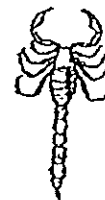
A



B



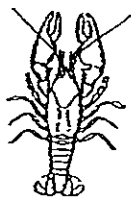
C



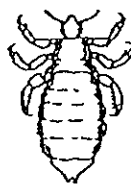
D



E



F



G

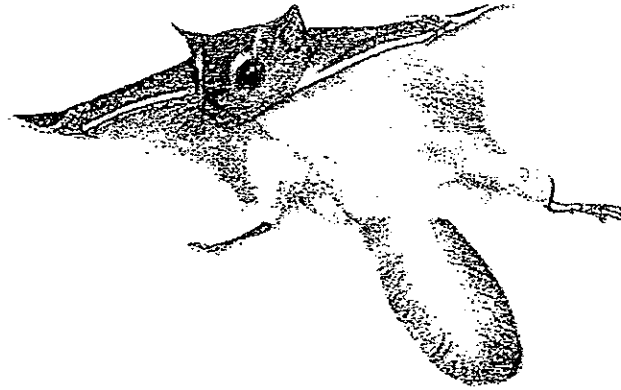


H

Using the letters A to H, list all four possible arthropods that are classified as insects.

[2]

- 41 The photograph below shows an animal in the air. Study the photograph and answer the following questions.

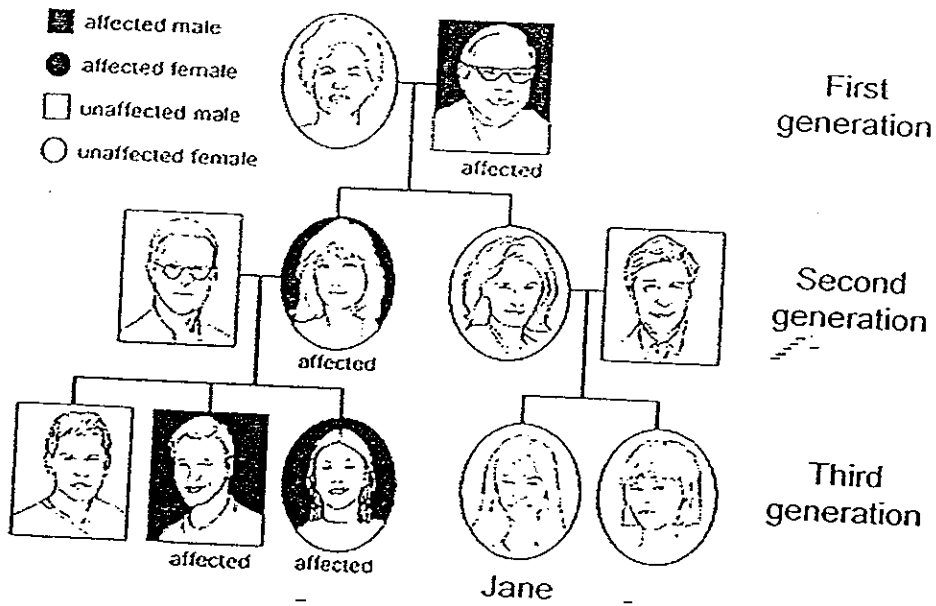


- (a) Based only on the picture above, indicate whether each of the statement is True, Not True or Not Possible to Tell. Put a tick (✓) in the correct box. [2]

Statement	True	Not True	Not Possible to Tell
The animal has a tail.			
The animal is able to fly upward.			
The animal is escaping from its predator.			
The animal has only two limbs.			

- (b) The animal is not classified as a bird. Give one reason why it is not classified as a bird. [1]

42 The diagram below shows Jane's family tree.



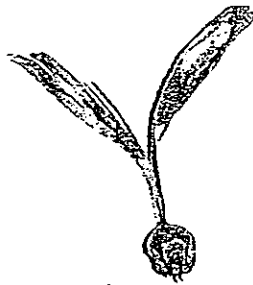
Four members of the family (as shown shaded in black in the family tree) developed the colorectal cancer.

(a) Explain how it is possible for the second-and third generation to develop the colorectal cancer. [1]

(b) By studying the family tree, give a reason why Jane did not develop the colorectal cancer. [1]

(c) Jane has natural blue eyes but her grandparents both have brown eyes. Explain how it is possible for her to have blue eyes. [1]

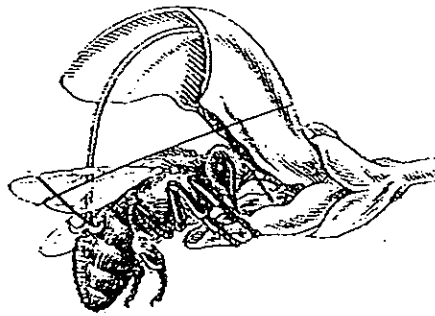
43 Study the diagram of the seed as shown below.



(a) How is the seed most likely dispersed? [1]

(b) What physical characteristic of the seed enables it to be dispersed by the method described in (a)? [1]

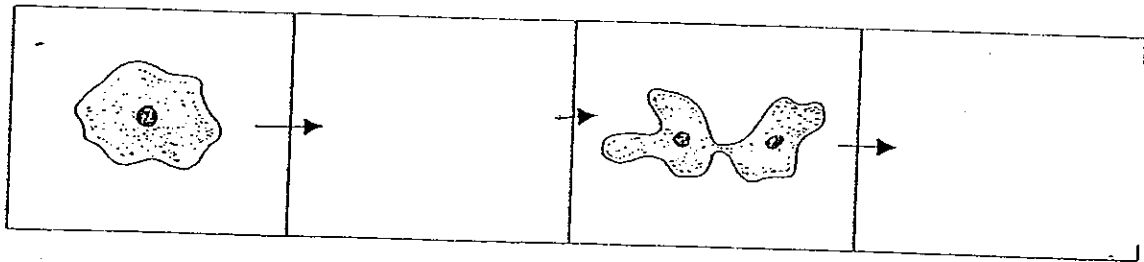
44 The picture below shows a bee on a flower.



(a) Give a reason why bees play an important role in the reproduction of plants. [1]

(b) In the picture above, show clearly where the flower's male reproductive cells are located. Draw a line to show that part and label it as 'A'. [1]

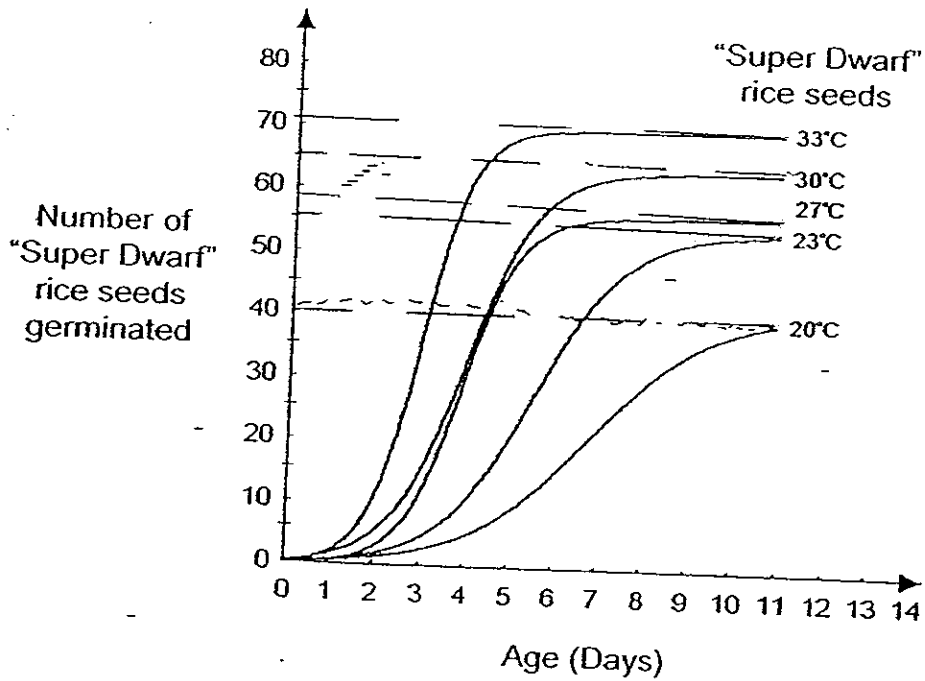
45 The diagram below shows a cell undergoing cell division.



(a) Complete the process by drawing the appropriate diagrams in the empty boxes above. [1]

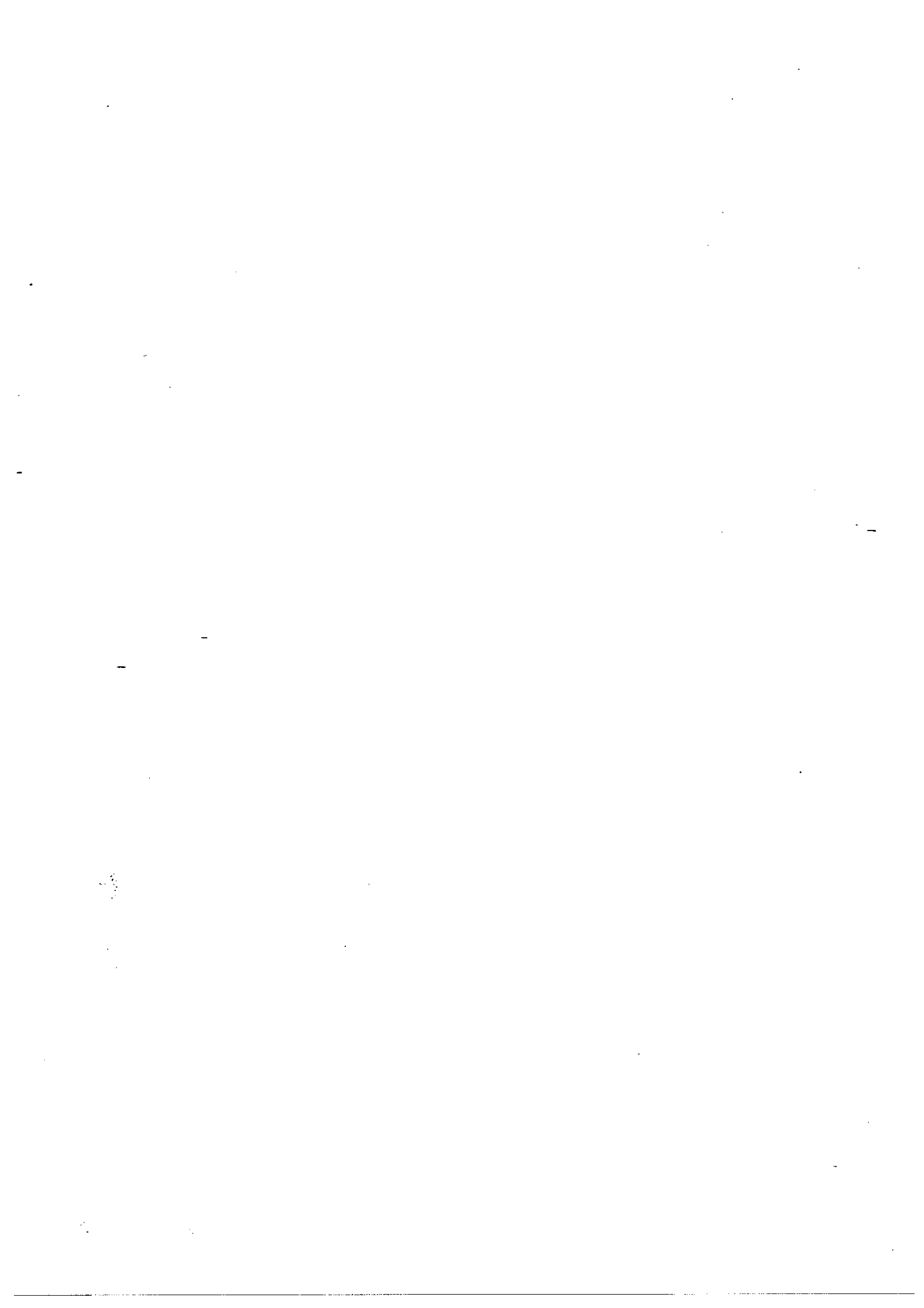
(b) Give one reason why the above process is important for living things. [1]

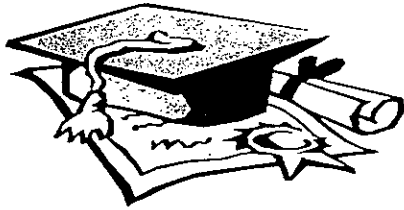
- 46 The graph below shows the relationship between the number of "Super Dwarf" rice seeds germinated and the temperature over a period of 11 days.



- (a) At what temperature will the "Super Dwarf" rice germinate the most? [1]
-
- (b) Predict the number of "Super Dwarf" rice germinated after 11 days when the temperature is at 28 °C. [1]
-
- (c) When the temperature is at 30 °C, what is the minimum number of days required to achieve the maximum number of germinated "Super Dwarf" rice seeds? [1]
-

End of Paper. Please check your answers.





ANSWER SHEET

EXAM PAPER 2008

SCHOOL : ACS 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	2	2	2	4	2	2	3	1	4	4	1	2	1	2	1	2

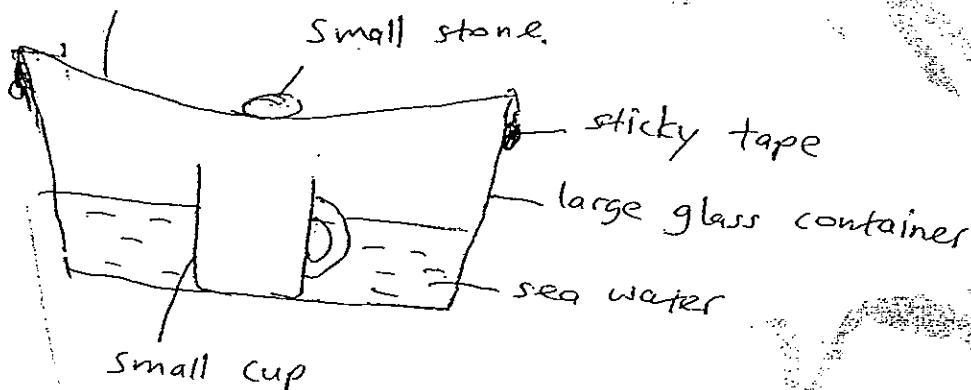
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	4	3	3	4	4	2	3	3	2	1	4	2

31) A) Glass B) Plastic C) Rubber D) Metal

32) a) Planet X. It is not too close or too far away from the sun.
 b) Water in liquid form.

33) a) Cell wall.
 b) It gives the cell a fixed shape.

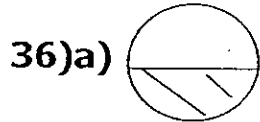
34) a) plastic sheet



b) Evaporation.

35)a)B,A,C

b)Yes. They are the same size.



37)D,A,C,B

38)a)No. More than 1 variable has changed.

b)Same paper size and same wind condition.

39)a)fertilization.

b)The womb.

40)B, E, G and H.

41)a)T, Not, Not, Not true.

b)Has fur.

42)a)They received colorectal cancer from the first generation.

b)Her parents do not have colorectal cancer.

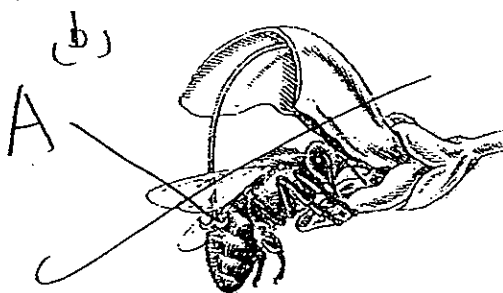
c)Her father has blue eyes so she inherited this trait from her father.

43)a)By wind.

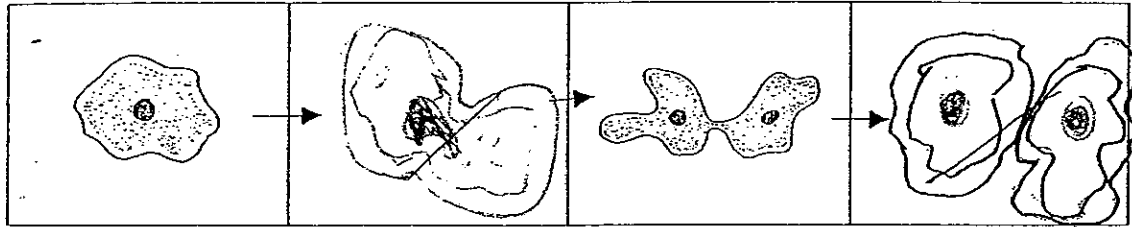
b)It has wings.

44)a)To pollinate the flower.

b)



45)a)



b) To ensure growth.

46)a) 33°C

b) 57

c) 9 days.