SA1

RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1)

2005

Name : _____ Class: P5____Index No: _____

12 May 2005 **SCIENCE** **Att: 1 h 45 min**

Your Score Out of 100 marks		
	Class	Level
Highest score		
Average score		
Parent's Signature		

SECTION A (30 X 2 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 on the Optical Answer Sheet (OAS).

1. The shadow of an object in a sunny place changes at different times of the day. We can often tell the time of the day by looking at the length and position of the shadow. Which of the following causes this change in the shadows on Earth?

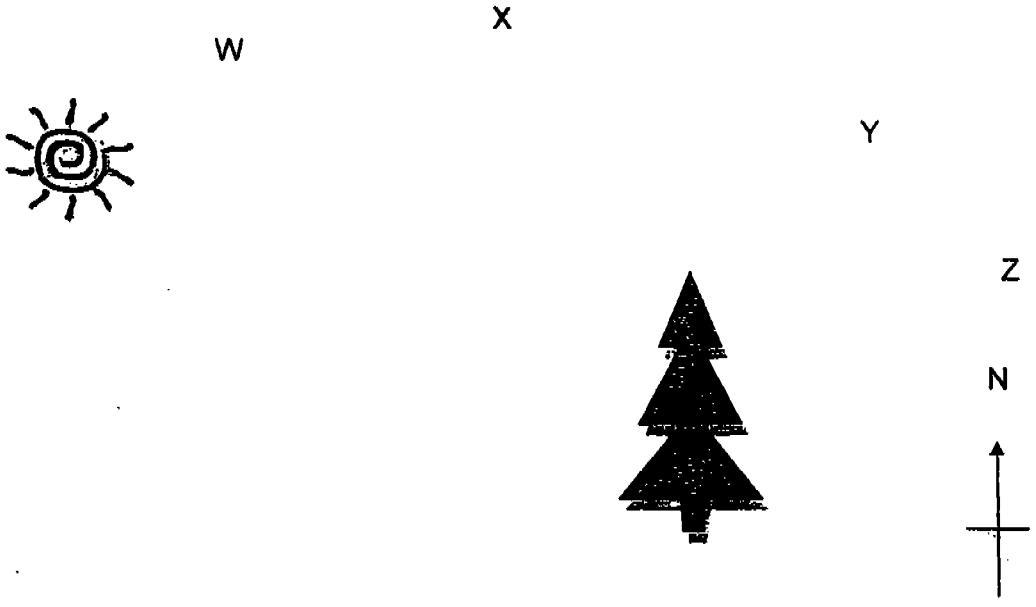
   (1) Rotation of the Moon on its axis.

   (2) Rotation of the Earth on its axis.

   (3) Revolution of the Earth around the Sun.

   (4) Revolution of the Moon around the Earth.

2. The picture below shows the position of the Sun at different times of the day. At what time would the Sun be at position Y?



(1) 3:00am

(2) 3:00pm

(3) 9:00am

(4) 11:00pm

3. Which one of the following statements is true about the Earth?

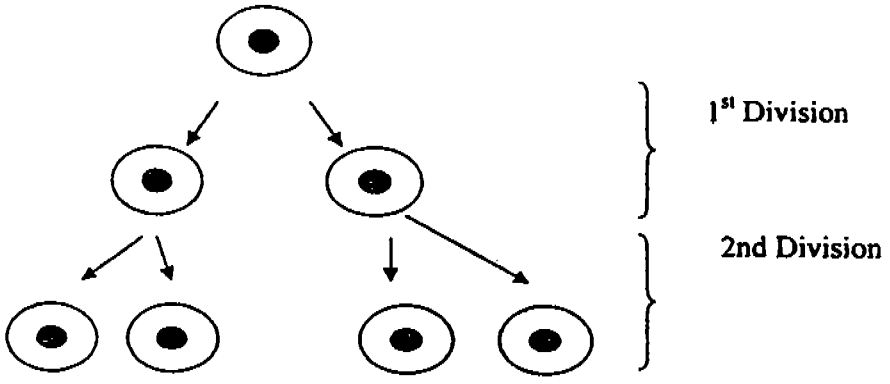
(1) It gives out its own light.

(2) It is the only planet that supports a diversity of life.

(3) It is the closest planet to the Sun in the Solar System.

(4) It takes 24 hours to make one revolution around the Sun.

4. The diagram below shows the cell division of alga, a unicellular micro-organism.



What is the number of 'daughter' cells produced from the single 'parent' cell after the 6th division?

(1) 12 (2) 32

(3) 64 (4) 72

5. Which of the following statements about heredity are true?

A. The young of human beings resemble their parents in many ways.

B. Heredity is the passing on of characteristics from offspring to parents.

C. Inherited characteristics sometimes do not show in one generation, but may reappear in the next generation.

D. The information about the characteristics that are passed on from parents to offspring can be found in the cytoplasm of our cells.

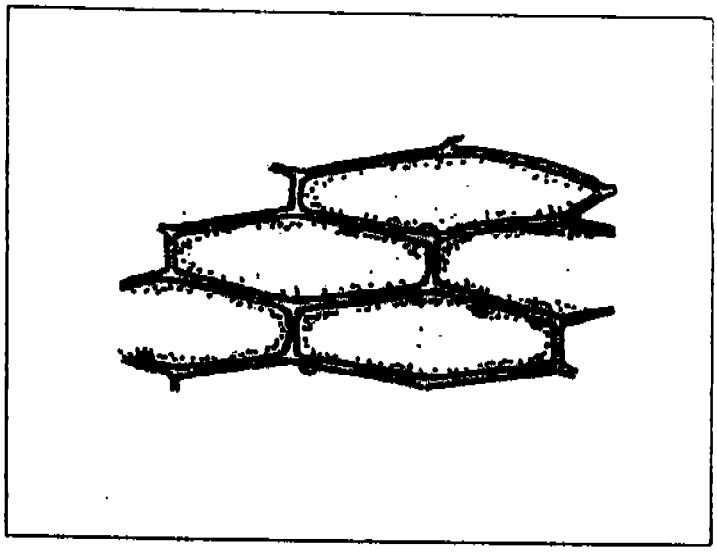
(1) A and C only

(2) A, B and C only

(3) B, C and D only

(4) A, B, C and D

6. Sammy observed some cells with the help of a microscope. The diagram below shows what he saw.



The cells were _____ cells.

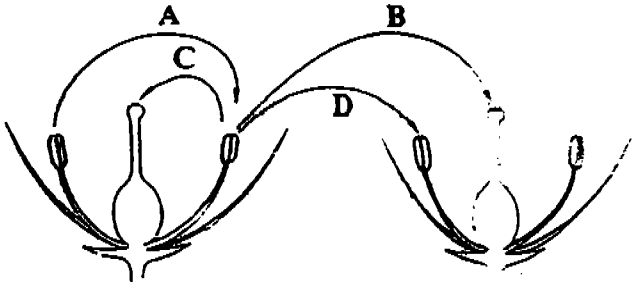
(1) cheek

(2) plant

(3) yeast

(4) red blood

7. The diagram below shows two flowers of the same species.



Which arrows correctly show the process of pollination taking place?

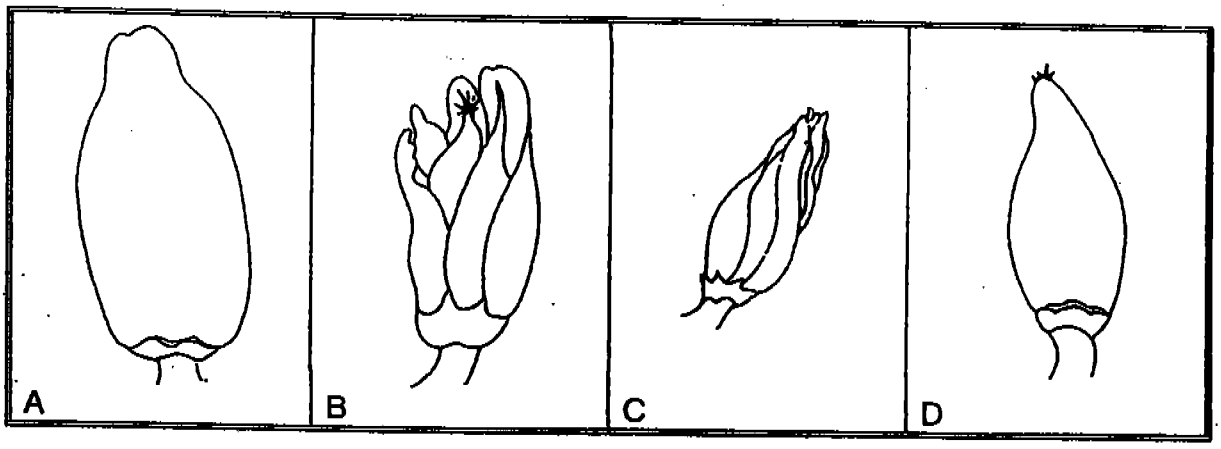
(1) A and B

(2) A and D

(3) B and C

(4) C and D

8. The pictures below show the different stages of growth of a papaya flower and fruit. The correct order in which these stages take place is _____.



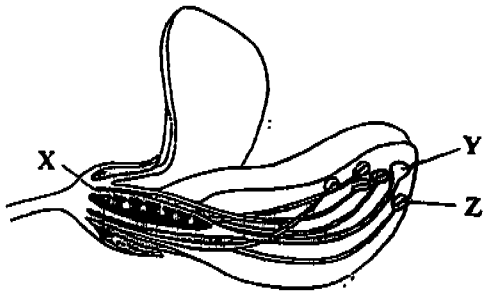
(1) ADBC

(2) BCDA

(3) CBDA

(4) CDAB

9. The diagram shows the structure of a flower with the parts X, Y and Z.



Where do pollination and fertilization take place?

	Pollination	Fertilisation
(1)	X	Y
(2)	Y	X
(3)	Y	Z
(4)	Z	Y

10. The table below shows an experiment set up by a group of pupils to find out the effects of overcrowding on the growth of plants. The plants were watered daily and closely observed by the pupils over a 3-4 week period.

Pots	Number of Seeds	Type of Soil	Size of Pots	Where the Pots Were Placed
A	6	Garden	Small	Near the Window
B	8	Garden	Small	Near the Window
C	4	Clayey	Medium	In the Garden
D	6	Garden	Medium	Near the Window
E	4	Clayey	Small	In the Garden
F	6	Garden	Big	Near the Window

Which 3 pots can they use to make a fair comparison?

(1) A, B and D

(2) A, D and F

(3) B, C and D

(4) B, E and F

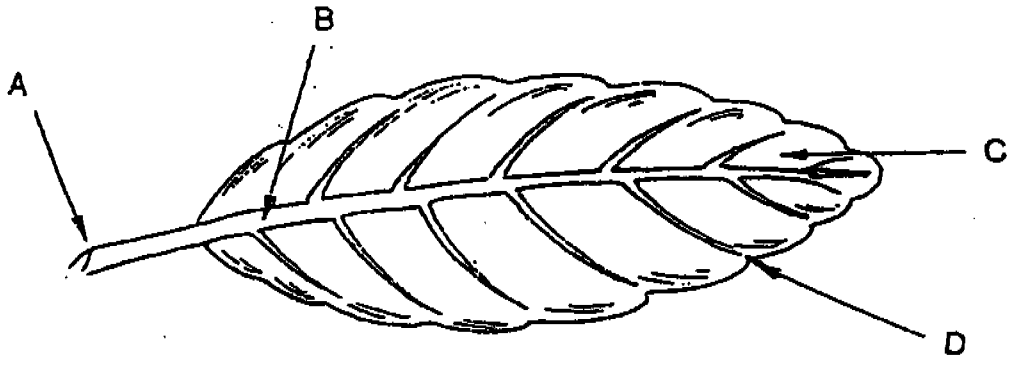
11. The 3 groups of plants W, X, Y and Z are reproduced in different ways as shown in the table below.

GROUP W	GROUP X	GROUP Y	GROUP Z
Begonia	Pineapple	Ginger	Chilli
African violet	Heliconia	Onion	Lady's Finger

Which of the following shows how the plants have been grouped?

	GROUP W	GROUP X	GROUP Y	GROUP Z
(1)	From seeds	From suckers	From spores	From leaves
(2)	From spores	From seeds	From suckers	From underground stems
(3)	From suckers	From underground stems	From seeds	From spores
(4)	From leaves	From suckers	From underground stems	From seeds

12. The diagram shows the leaf of a bryophyllum plant. New plants will grow from the part marked _____.



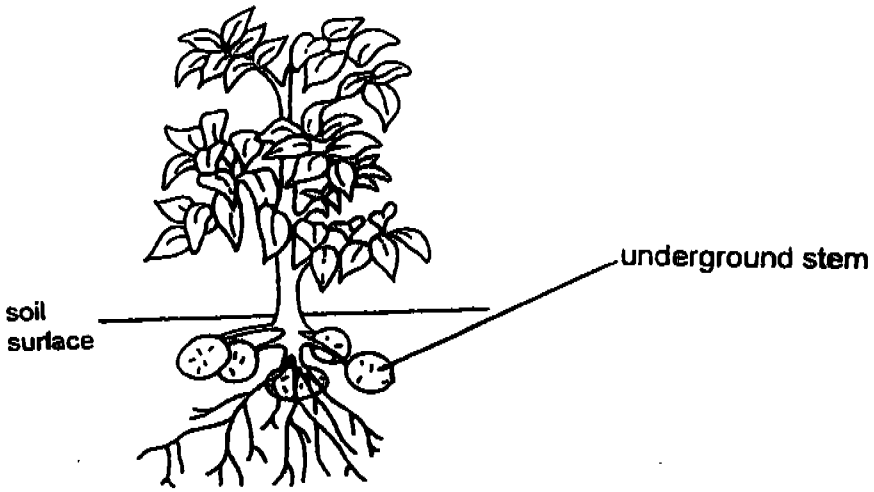
(1) A

(2) B

(3) C

(4) D

13. The diagram shows a potato plant reproducing asexually by underground stem.



These four observations were made about the potato plant.

A. There is one parent plant.
B. The underground stems store food.
C. The underground stems are attached to the parent plant
D. The underground stems have the same genetic material as the parent plant.

Which of these observations describe asexual reproduction?

(!) A and B

(2) A and D

(3) B and C

(4) C and D

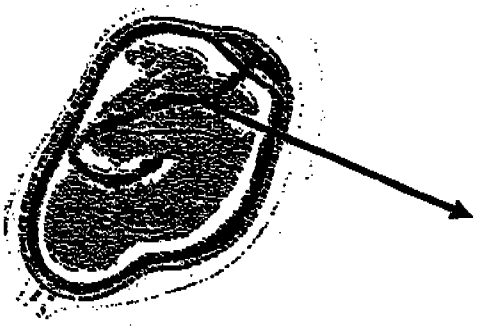
14. The table shows the comparison of sexual reproduction in plants and animals.

	In Animals	In Plants
Female Sex Cells	P	R
Male Sex Cells	Q	S

Which of the following do the letters P, Q, R and S represent?

	P	Q	R	S
(1)	ovule	sperms	pollen grain	egg
(2)	egg	pollen grain	sperms	ovule
(3)	egg	sperms	ovule	pollen grain
(4)	pollen grain	ovule	egg	sperms

15.



Structure W is known as the umbilical cord of a baby in the mother's womb. Which pupil(s) give the correct function(s) of the umbilical cord?

Randy : It carries food to the foetus.

Will : It removes waste from the foetus.

Fred : It transports water from mother to foetus.

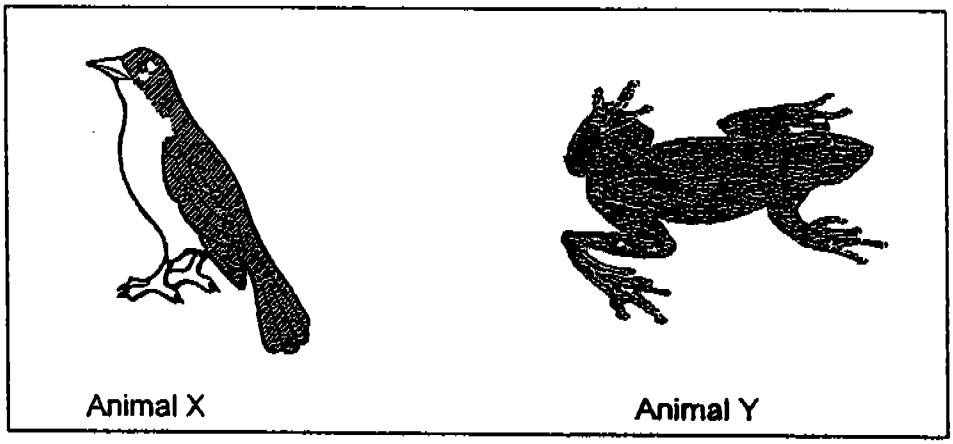
(1) Fred

(2) Randy and Fred

(3) Randy and Will

(4) Randy, Will and Fred

16. Both Animal X and Animal Y shown in the diagrams below reproduce by laying eggs.



Which statements provide the best reasons why Animal Y tends to lay much more eggs than Animal X?

A. Many animals feed on the eggs of Animal Y after they are hatched.
Thus having more eggs will ensure the survival of Animal Y.

B. Animal X feeds its young until they can look after themselves. The chances of Animal X's young surviving are higher. Thus, Animal X lays fewer eggs.

C. Animal X's nest is not big enough to contain too many eggs.

D. Animal Y does not look after its young. Thus it has to lay many eggs to ensure that at least some of its young survive.

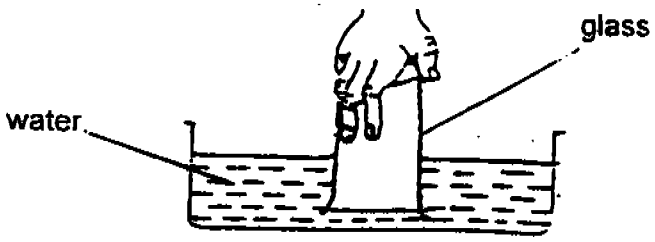
(1) B and C only

(2) A, B and D only

(3) A, C and D only

(4) A, B, C and D

17. In the diagram below, the level of water is lower in the glass than it is outside the glass because _____.



(1) air can be compressed

(2) air in the glass takes up space

(3) water does not have a definite shape

(4) water does not have a definite volume

18. Look at the list of substances below.

A. Mercury
B. Steam
C. Dust
D. Oil

Which of the following have definite volume but no definite shape?

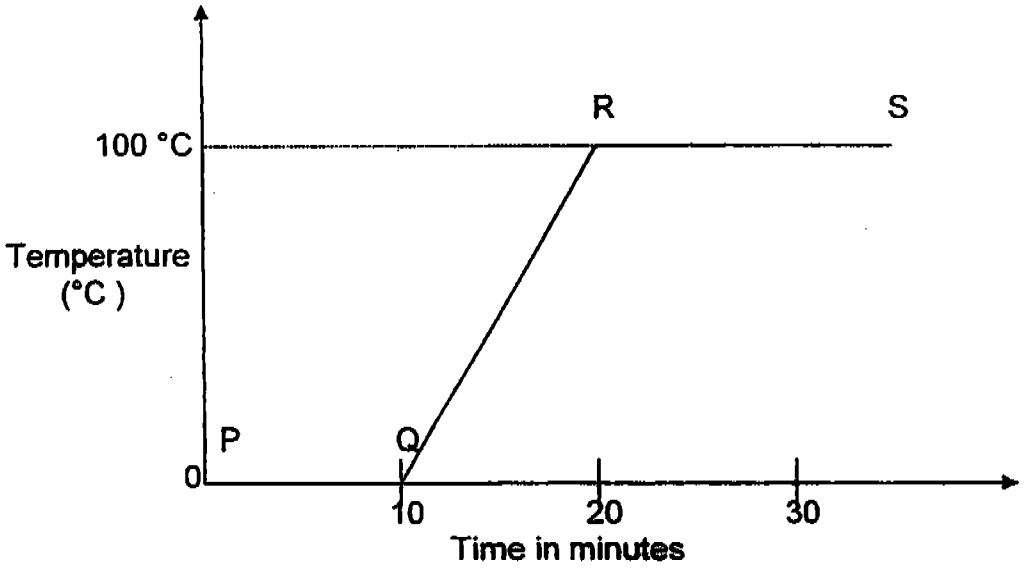
(1) A and C only

(2) A and D only

(3) B and C only

(4) C and D only

19 Some ice cubes were heated for 30 minutes. The graph below shows the change in temperature of the ice against time.



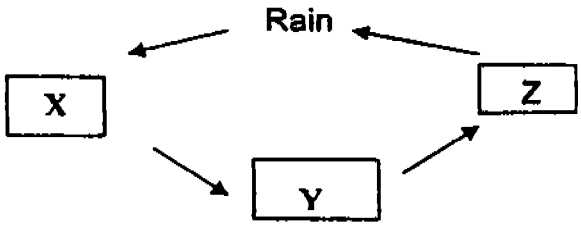
Which of the following describes correctly the changes that take place from P to Q and from R to S?

	P to Q	R to S
(1)	melting	boiling
(2)	freezing	melting
(3)	freezing	boiling
(4)	boiling	freezing

20 Which of the following pair of statements is correct?

	Melting of ice	Freezing of ice
(1)	Heat is gained	Heat is gained
(2)	Heat is lost	Heat is gained
(3)	Heat is lost	Heat is lost
(4)	Heat is gained	Heat is lost

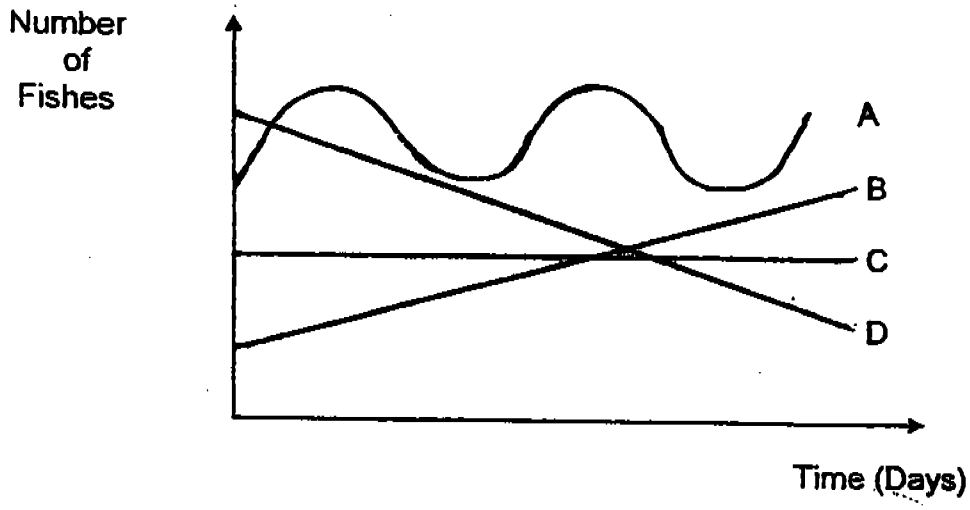
21 The diagram below represents the water cycle.



X ,Y and Z are water at their different states. Which of the following show correctly the states of water?

	X	Y	Z
(1)	liquid	gaseous	gaseous
(2)	gaseous	liquid	liquid
(3)	liquid	gaseous	liquid
(4)	gaseous	gaseous	gaseous

22. After a factory discharged some poisonous waste matter into a pond, the fishes in it were affected. Which line on the graph below is likely to show this change?



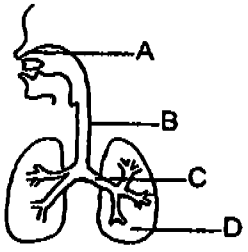
(1) A

(2) B

(3) C

(4) D

23. Study the diagram below.



Which part shows the exchange of oxygen and carbon dioxide taking place?

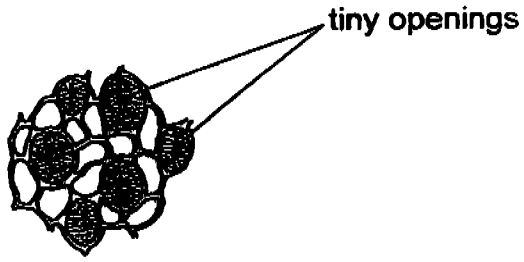
(1) A

(2) B

(3) C

(4) D

24. The diagram below shows the tiny openings found on the underside of a leaf.



What are the functions of these tiny openings?

A Absorb water.
B Absorb sunlight to make food.
C Remove excess water from the plant
D Allow oxygen and carbon dioxide to enter and leave the plant.

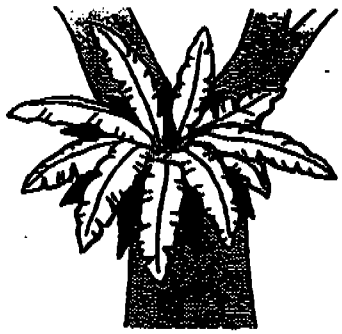
(1) A and B only

(2) B and C only

(3) A and D only

(4) C and D only

25 Study the diagrams of the organisms P and Q below.



P

Q

How are the organisms shown above alike?

A. They are able to move from one place to another.
B. They need food, air and water.
C. They can reproduce.
D. They can grow.

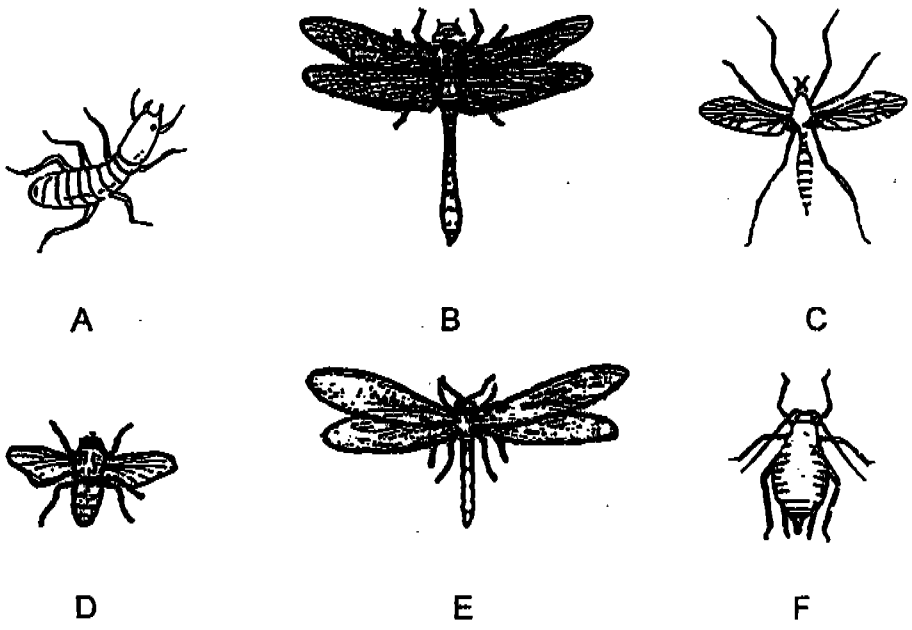
(1) A and D only

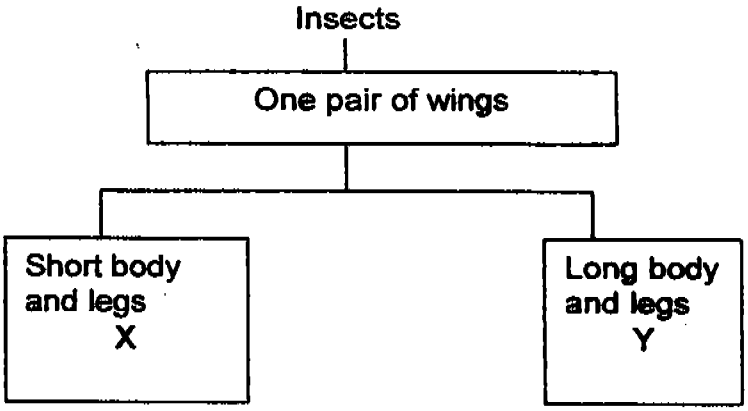
(2) A, B and C only

(3) B, C and D only

(4) A, B, C and D

26 Study the diagrams of some insects below.

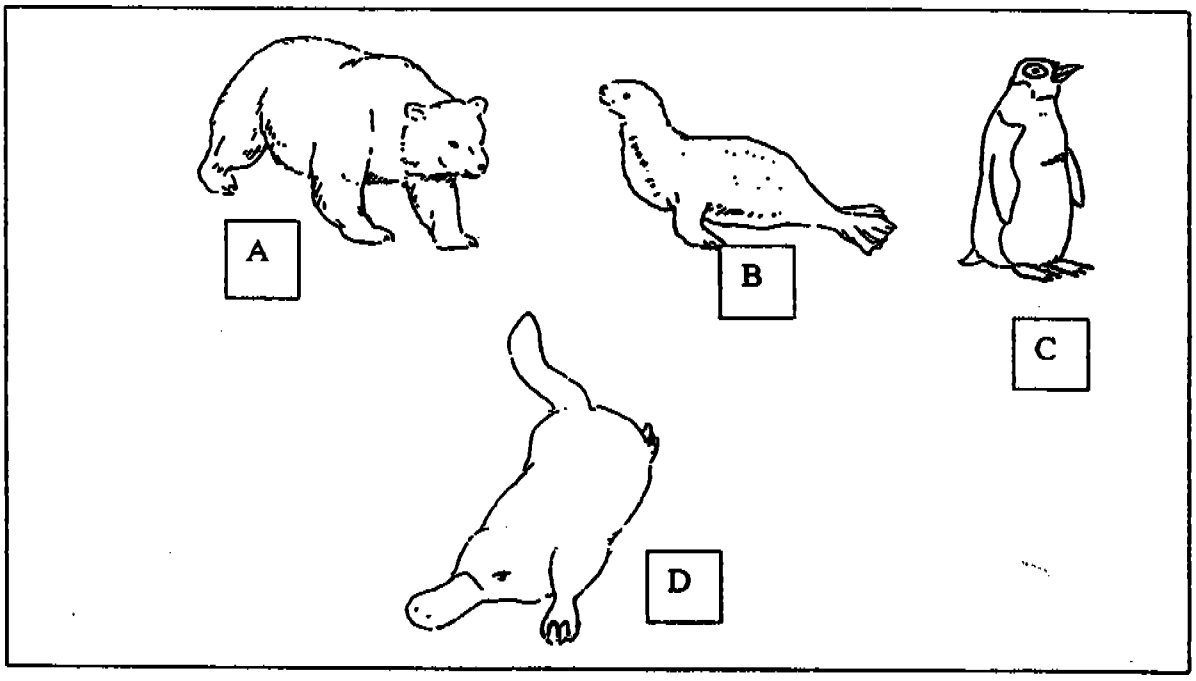




Which two insects can be placed in X and Y respectively?

	X	Y
(1)	Insect A	Insect D
(2)	Insect D	Insect B
(3)	Insect F	Insect E
(4)	Insect D	Insect C

27 Study the diagrams of the animals below.



Which of the animals belong to the same group?

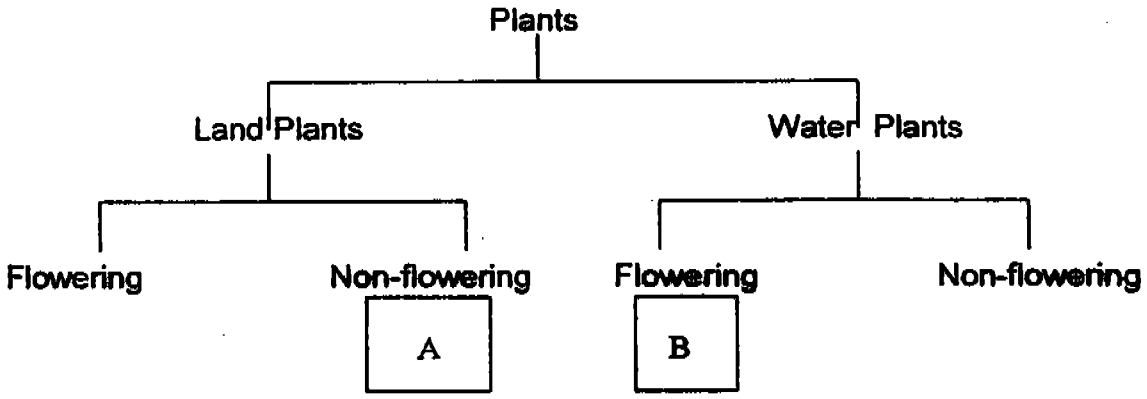
(1) A and C only

(2) B, C and D only

(3) A, B and D only

(4) A, B, C and D

28 Study the classification table below carefully.



Which of the following is correct?

	A	B
(1)	Moss	Lotus
(2)	Ixora	Cabomba
(3)	Frangipani	Water hyacinth
(4)	Rafflesia	Arrowhead

29. The table below shows some materials classified under 3 different groups A, B and C.

GROUP	A	B	C
MATERIALS	Wood	Cheese	Steel wool
	Cotton	Leather	Aluminium
	Book	Silk	Gold
	X		

X is a material placed in Group A.
Which one of the following materials is X?

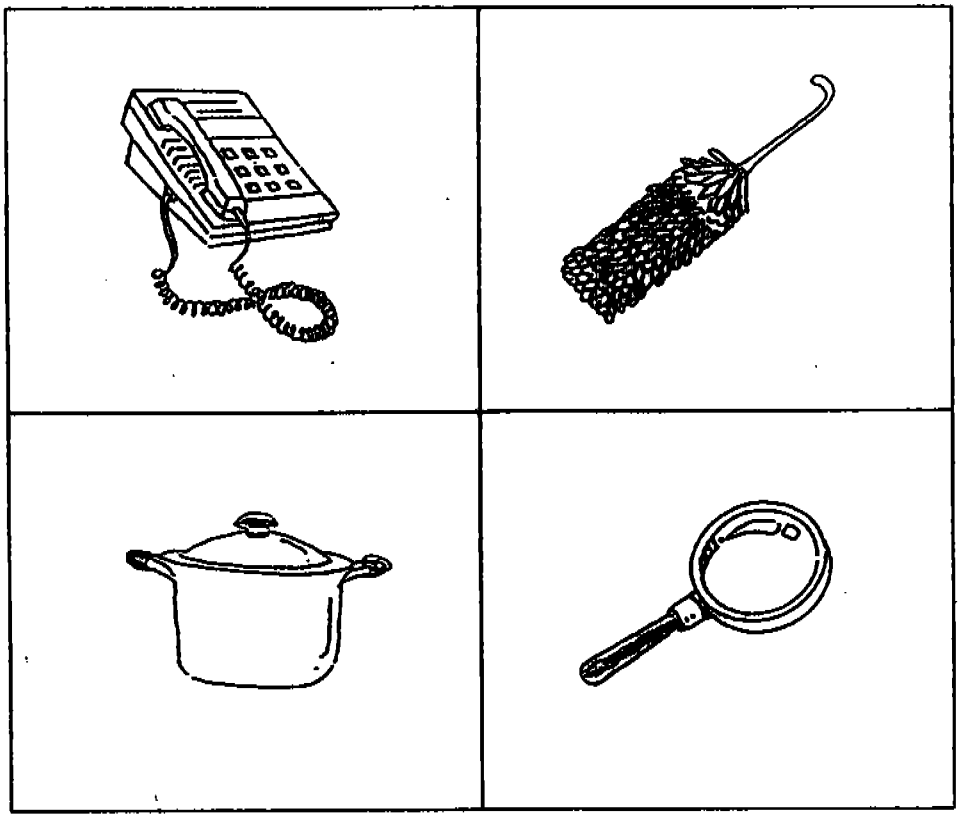
(1) coin

(2) egg

(3) eraser

(4) sponge

30. Study the pictures of the objects below.



What do these objects have in common? They _____.

(1) are made of metal

(2) do not break when dropped

(3) are made of natural materials

(4) are made of more than one material

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SECTION B (40 marks)

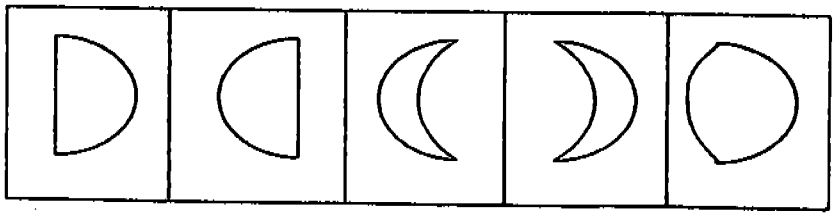
There are 16 questions in this section. Answer all of them. Write your answers in the spaces pr

31. Jui-en is interested in the phases of the moon. In his calendar, he jots down the date in which he sees this waning crescent moon ☾ from his bedroom window in Pasir Ris, Singapore.

April						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	☾ 20	21	22	23
24	25	26	27	28	29	30
May						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

(a) On which date would he see the next waning crescent moon? Draw in the calendar above using this symbol ☾. [1]

(b) The table below shows the apparent shapes of the moon which Jui-en sees in the month of April from his bedroom window in Pasir Ris, However, he mixes up the arrangement.



A B C D E

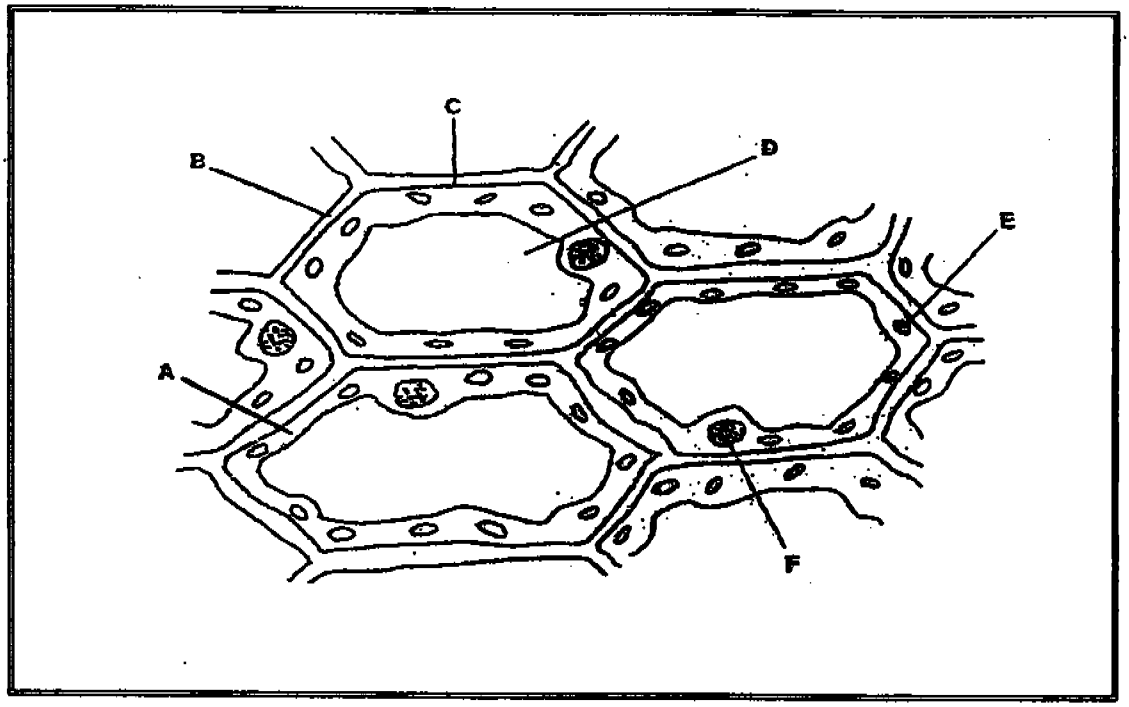
Arrange the phases of the moon in the correct order, starting with the crescent moon D. [1]

_____

(c) What causes the changing phases of the moon? [1]

_____

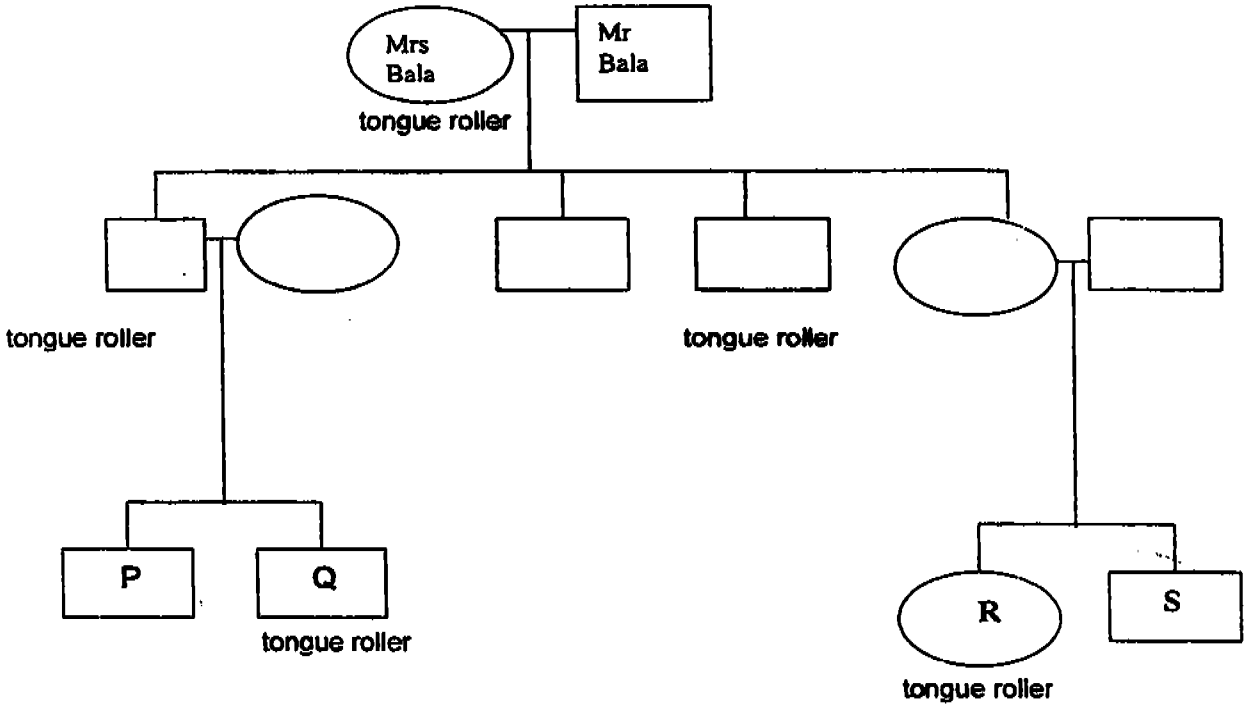
32. David looked at some cells on a slide, using a microscope. The diagram below shows what he saw.



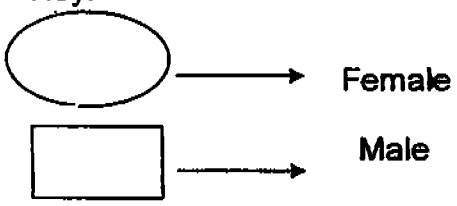
Complete the table below. Write the correct letter from the diagram next to each cell function. [2]

Cell Function	Letter
(i)This cell part controls the cell and its activities.	
(ii) This cell part controls the movement of substances in and out of the cell.	

33. The diagram below shows part of the Bala family tree. Study it carefully and answer the following questions.



Key:



(a) State 2 ways in which the family tree like the one above can give us useful information about the family. [2]

(i) _____

_____

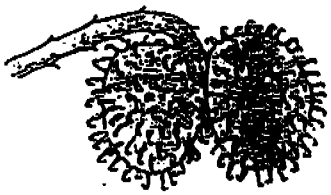
(ii) _____

_____

(b) Who do the letters P, Q, R and S represent in this family tree? [1]

_____

34. Study the diagrams of the following fruits.



FRUIT A

FRUIT B

Complete the table below about the fruits shown above. [4]

Fruit	Method of Dispersal	Characteristic of Fruit which helps in dispersal
A		
B		

35. Mrs Lim collected 5 identical fruits, A, B, C, D and E. She subjected each fruit to different temperatures because she wanted to find out the effect of temperature on the splitting of rubber fruit.

The results were recorded in the table below.

Temperature	20°C	25°C	30°C	35°C	40°C
Rubber fruit	A does not split	B splits after 1 day	C splits after 3h	D splits after 2h	E splits after 30 min
How far the seeds are scattered	-	1m	1.5m	2.5m	4m

(a) From the above results, what can you say about the effect of temperature on the time taken for the fruit to split? [2]

_____

_____

(b) Which rubber fruit B, C, D or E splits with the greatest force? [1]

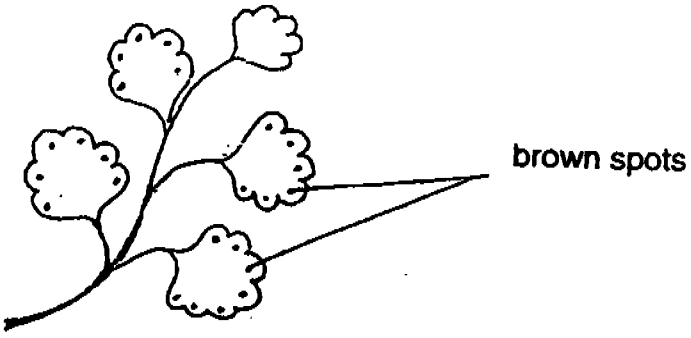
_____

(c) State one reason why fruits and seeds need to be dispersed. [1]

_____

_____

36. 'Brown spots' are found on the underside of the leaves of the maiden-hair fern shown below.



(a) What are these 'brown spots'? [1]

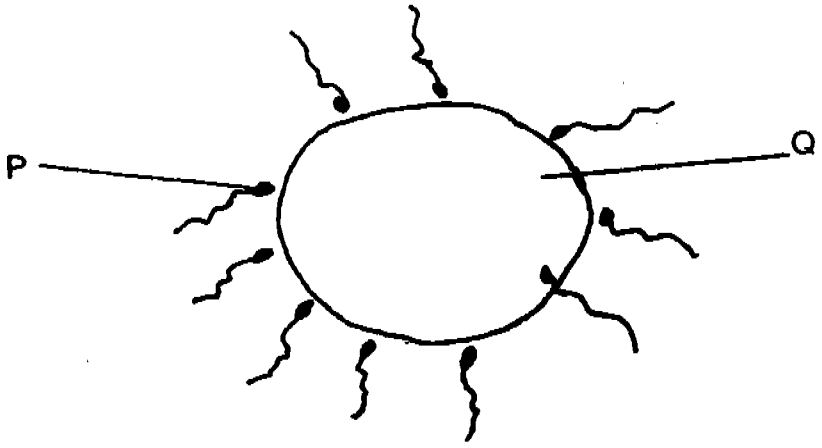
_____

(b) In what way are these 'brown spots' important to the plant? [2]

_____

_____

37. The following diagram shows a process that can take place in the body of an animal.



(a) What are 'P' and 'Q'?

P: _____ [1/2]

Q: _____ [1/2]

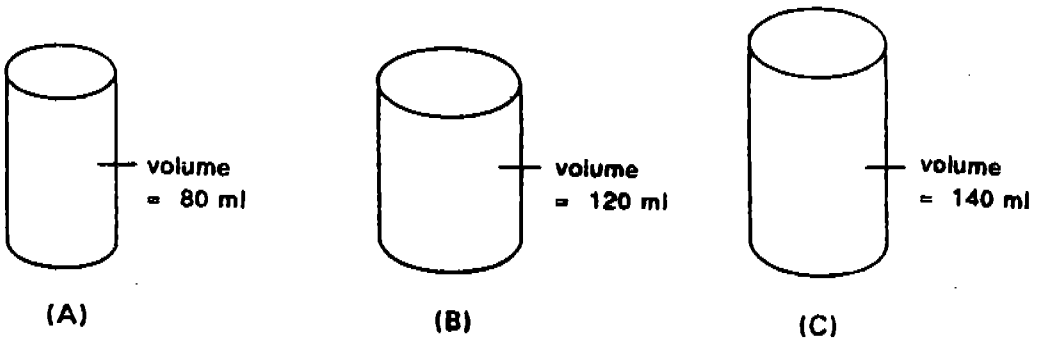
(b) What is this process called? [1]

_____

(c) What happens when this takes place successfully? [1]

_____

38. Amy has 120 ml of oxygen gas in a tank. She wants to transfer all the oxygen gas in the tank into another container.



(A) (B) (C)

(a) Which of the following containers would be able to hold all the oxygen gas? [1]

_____

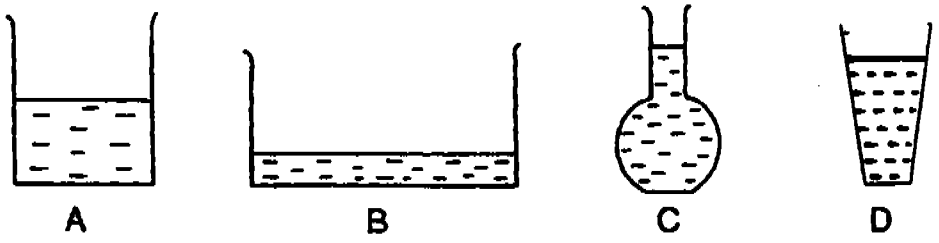
(b) Explain your choice for part (a). [1]

_____

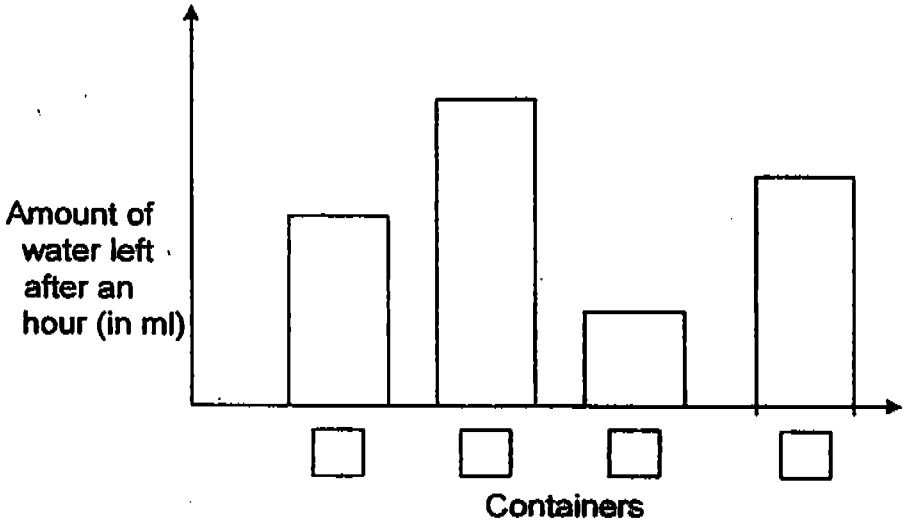
_____

_____

39 An equal amount of water is placed in each container, A, B, C and D respectively. The containers are left in the sun for an hour.

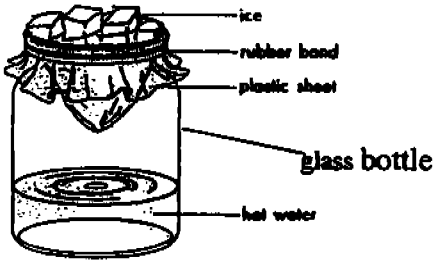


(a) Label A, B, C and D in the boxes to show the amount of water left in the containers after an hour. [1]



(b) Which container has the least amount of water left after an hour? Explain your choice. [1]

40 Sulin set up a model as shown below to study the changes of states in the water cycle.



(a) At which part of the set-up are "clouds" formed? [1]

_____

(b) What is the process that takes place at the surface of the hot water? [1]

_____

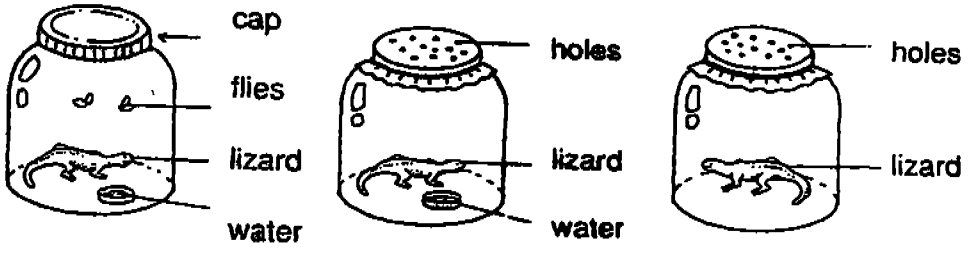
41. We can help to save water by practising the 3Rs.
. The table below gives examples of how water is conserved by practising the 3Rs.
Complete the table by filling in what the 3Rs stand for in parts (i)-(iii) and give an example of a good practice in part (iv). [2]

THE 3Rs	How We Can Save Water by Practising the 3Rs
(i) _____	(iv) _____ _____
(ii) _____	Using water collected from the washing machine after the final rinse to wash the floors in my house.
(iii) _____	Factories removing waste materials in the water by using purifying systems. The water is used by the factories to cool their machines or wash things.

42 Some people were trapped in the lift for about 15 minutes. What changes were taking place to the amounts of oxygen, carbon dioxide and water vapour in the lift?
In the table below, write **"increase", "decrease"** or **"remain the same"** in the spaces provided. [1]

Air in the lift	Changes to the Amount
oxygen	
carbon dioxide	
water vapour	

43 Sally set up the following experiment as shown below.



Set-up X Set-up Y Set-up Z

(a) Which lizard will be the first to die? [1]

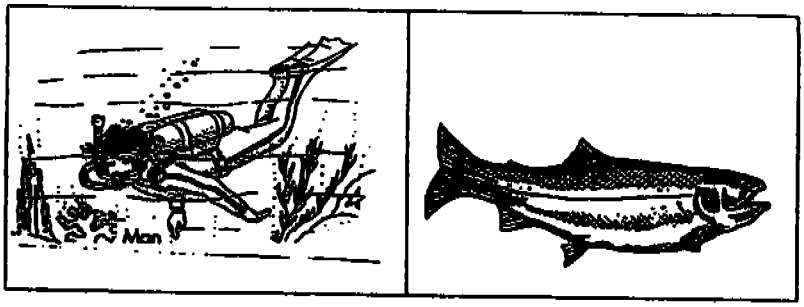
_____

(b) Give an explanation for your choice. [1]

_____

_____

44 Study the pictures below.



(a) Unlike the fish, the man can only swim under the sea with the help of the oxygen tank. Explain why. [1]

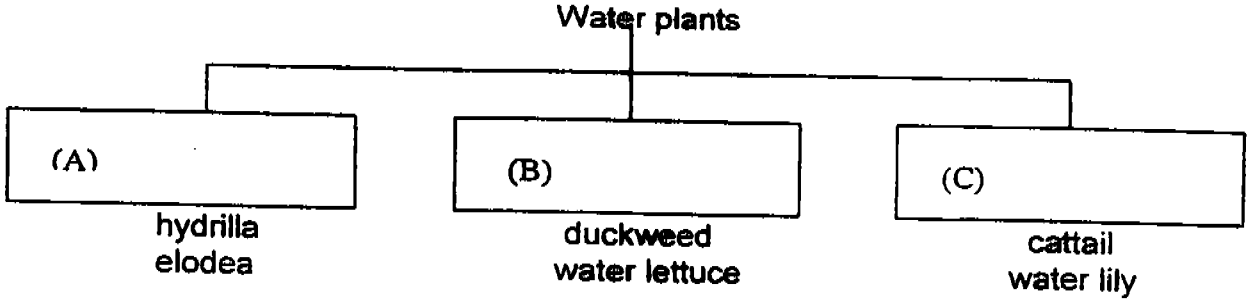
_____

_____

(b) Which part of the fish will protect it from getting hurt easily? [1]

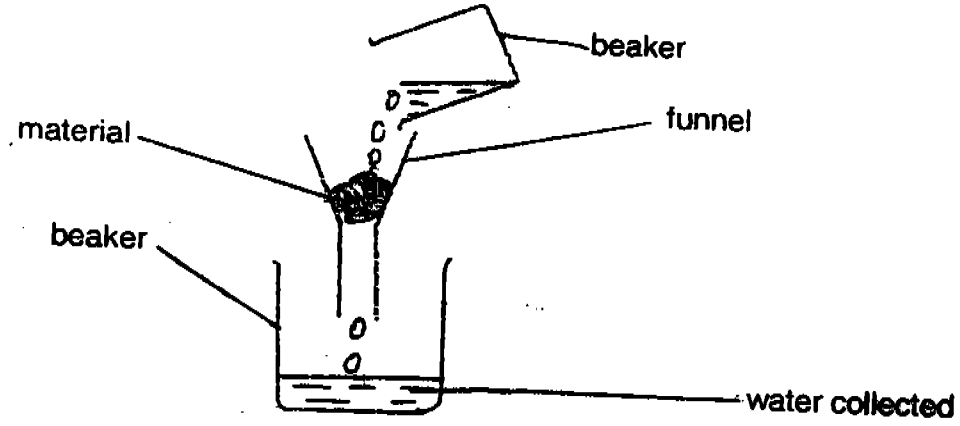
_____

45 Study the classification table below.



Write a suitable heading for A, B and C respectively. [2]

46. Abigail wanted to find out how well different materials can absorb water. She set up the experiment as shown below, and recorded the amount of water collected in the beaker when different materials A, B and C were put in the funnel.



(a) In order for her test to be fair, which of the following variables should she keep the same or change?
Put a tick ✓ in the appropriate column. [2]

Variables	Keep the Same	Change
(i) Type of material		
(ii)Size of funnel		
(iii) Amount of material		
(iv) Amount of water poured into funnel		

(b) She recorded the results of her fair test as shown below.

Material tested	A	B	C
Amount of water collected	40 ml	10 ml	90 ml

From her results, which material is able to absorb the most water? [1]

_____

Setters: Mrs Ng See Peng
Mdm Wirda Sukor
Mrs M. John

SA1

Raffles Girls Primary School

Primary 5 Science SA1 Exams (2005)

[redacted]

Answer Sheets

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

31a. 17 May.

31b. D, A, E, B, C

31c. The sun. Moon moves round the earth that is illuminated by the sun.

32. F
(ii) C

33a. Genetic Information: i.e. tongue roller can be inherited.
(ii) Gender of Children / shows no of people in the family

33b. Mr & Mrs Bala's grandchildren

34a. Animals
- hooks of fruit

34b. Wind
- have hairs which help them floated away in wind.

35a.. The higher the temperature, the shorter the time needed.

35b. E

35c. To prevent overcrowding

34

36a. Spores/spores bags

36b. The plant (maiden – hair fern) reproduce from spores and dispersed by wind or water

37a. P : sperms
Q: eggs

37b. Fertilisation

37c. The fertilized egg can grow and develop into young animals.

38a. C

38b. Air cannot be compressed; hence A cannot hold all the oxygen gas.

39a D, C, B, A

39b. B. Largest surface area.

40. Condensation

41. Reduce. Save water, turn off tap/ electricity when not in use. Bring shopping bag of obtaining plastics bags

(ii) Reuse
(iii) Recycle

42. Decrease
Increase
Increase

43. X

43b. Oxygen is very important and in X, flies fight oxygen with the lizard. With less oxygen, lizard in X will die first.

44. Fish have gills and special skins to breathe in dissolved oxygen in water; and they are used to the water pressure in their surroundings.

44b. Scales (their covering)

3446

45a. Submerged plants
45b. Floating plants
45c. Partially submerged

46

	Keep the same	change
(i)		✓
(ii)	✓	
(iii)	✓	
(iv)	✓	

46b. B

3461