SA1

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1
2004

BOOKLET A

Date : 7th May 2004

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		**60**
Booklet B :		**40**
Total :		**100**

Parent's signature: .....

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 15 printed pages including this cover page.

Section A (30 x 2 marks = 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 provided.**

1. Thomas took a glass of water from the refrigerator. As he held the glass, he noticed that after a while, there were small droplets of water on the outside of the glass. What could be a possible explanation for Thomas's observation?

(1) Water in the air evaporated.
(2) Water from the glass leaked out.
(3) Water vapour in the air condensed on the glass.
(4) Heat from Thomas's palm caused the water vapour to condense on the glass.

2. Cell division is necessary to _____.

A produce new cells
B form new substances
C enable the organism to grow
D repair old and damaged cells

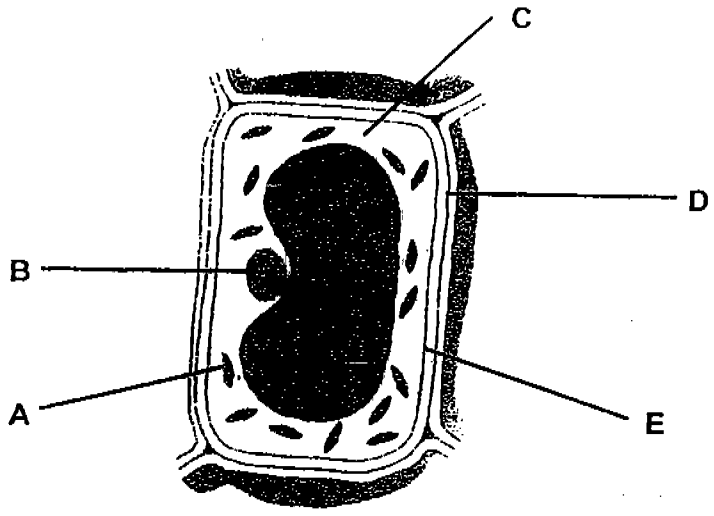
(1) A and B only
(2) A and C only
(3) A, C and D only
(4) B, C and D only

3. In what ways are bird's nest ferns similar to mosses?

A They have no flowers.
B Wind helps in their dispersal.
C They reproduce from spores.
D They can make their own food.

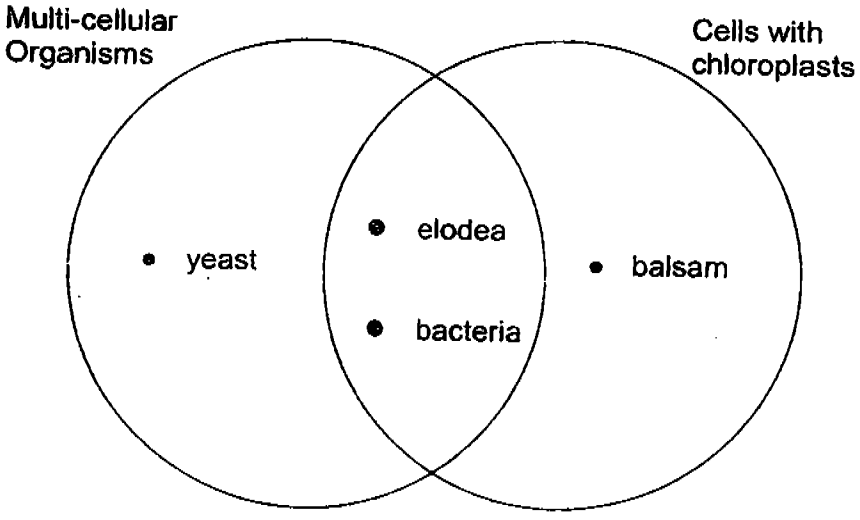
(1) A and B only
(2) C and D only
(3) A, B and D only
(4) A, B, C and D

4. Which parts of a plant cell as shown in the diagram below are not found in an animal cell?



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

5. Study the Venn diagram below.



Which of the living thing(s) in the Venn diagram above is/are classified correctly?

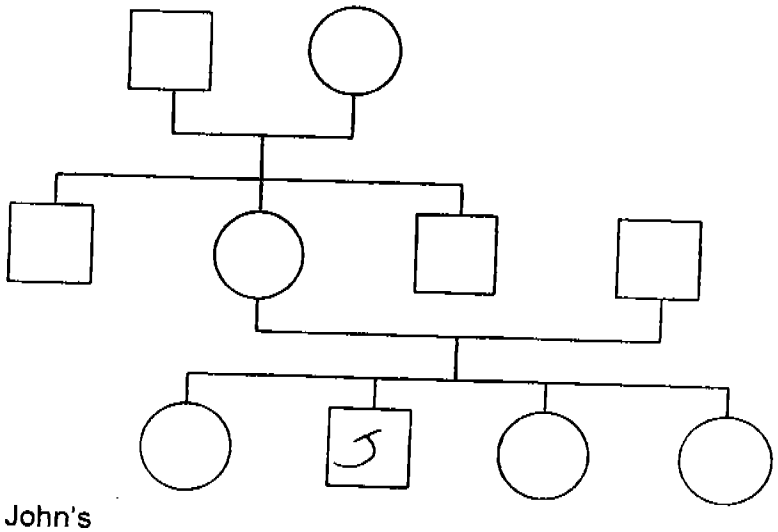
(1) elodea
(2) balsam and yeast
(3) bacteria and elodea
(4) balsam, bacteria and elodea

6. We can get heat from _____.

A the sun
B the moon
C a burning candle
D rubbing our hands together
E conversion of electrical energy in an electric kettle

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

Study John's family tree below and use it to answer questions 7 and 8.



7. How many uncles does John have?

(1) 1
(2) 2
(3) 3
(4) 0

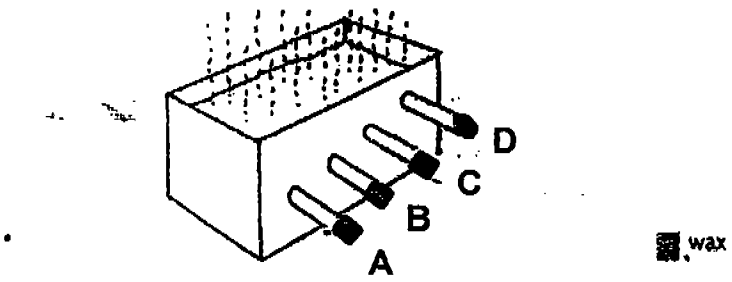
8. Which one of the following statements is correct?

(1) John has no brother.
(2) John has four sisters.
(3) John's mother is the only child.
(4) John's grandfather has three sons and one daughter.

9. Which one of the following is not an example of a genetic trait?

(1) straight hair
(2) round face
(3) long fingernails
(4) freckles

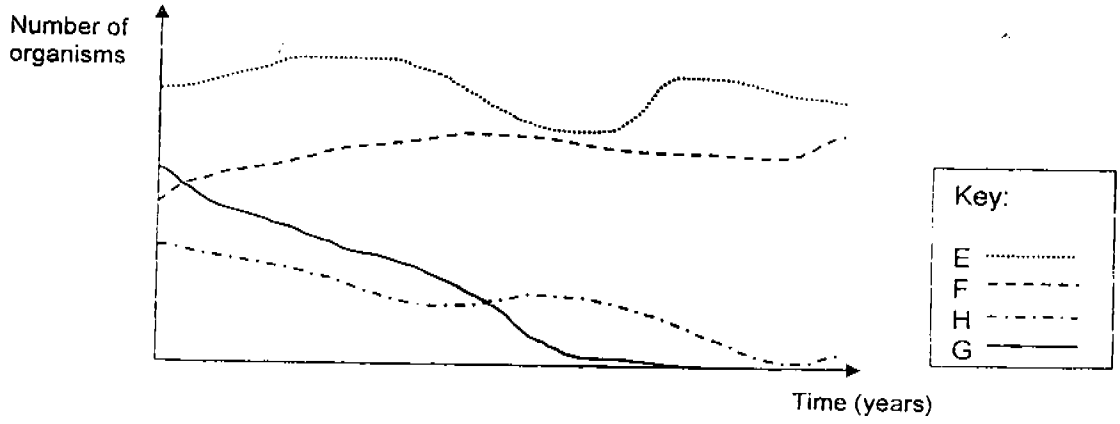
10. Joshua set up an experiment as shown in the diagram below. There were 4 rods that were made up of different materials. The tip of each rod was coated with the same amount of wax. When Joshua poured hot water into the container, he found that the wax on the different rods fell off at different times.



What could Joshua conclude from this experiment?

(1) Heat travels at different speed in water.
(2) Heat travels faster through a shorter distance.
(3) Wax conducts heat more quickly than the rods.
(4) Some materials conduct heat more easily than others.

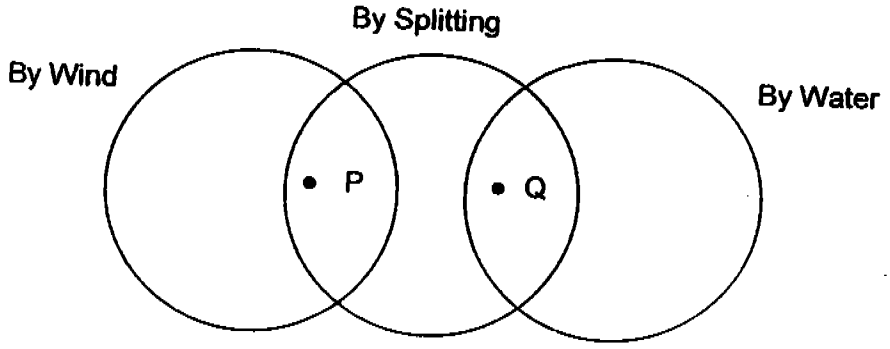
11. The graph below shows the number of different organisms, E, F, G and H, found in a given plot of land over a period of time.



Which organism almost became extinct?

(1) E
(2) F
(3) G
(4) H

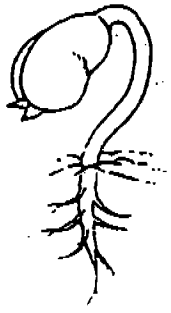
12. Study the Venn diagram below which shows the different ways of seed dispersal.



Which one of the following pairs of fruits is correctly represented by P and Q in the table below?

	P	Q
(1)	African tulip	lotus
(2)	African tulip	pong pong
(3)	flame of the forest	lotus
(4)	African violet	nipah

13. The diagram below shows a seedling.



What are the conditions necessary for the seed to reach this stage?

(1) water and sunlight only
(2) oxygen and warmth only
(3) water, sunlight and oxygen only
(4) water, oxygen and warmth only

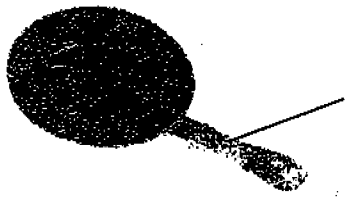
14. Ali discovered a fruit in his school garden. He carried out the following investigation to find out if the fruit is dispersed by animals.

A He weighed the fruit.
B He checked the fruit for stiff hairs.
C He cut the fruit to see whether it was fleshy.
D He examined the fruit to see whether it had 'wings'.

Which of the above procedures would help him decide if the fruit was dispersed by animals?

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

15. In the diagram below, Mother is able to hold the handle of the frying pan while frying.

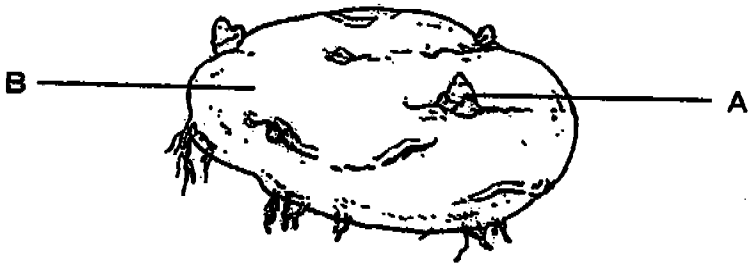


Which of the following characteristics determine the choice of material used for the handle?

A It is flexible.
B It is waterproof.
C It is a poor conductor of heat.

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

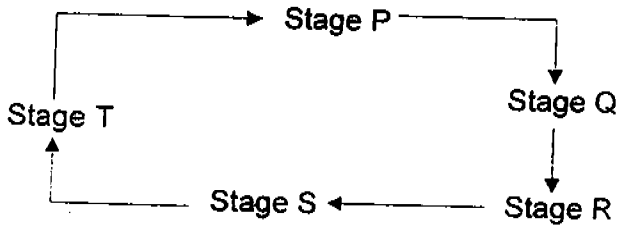
16. The diagram below shows a potato.



How are the parts marked 'A' and 'B' useful to the plant?

	A	B
(1)	stores food	grows into a young plant
(2)	makes food	takes in water
(3)	grows into a young plant	stores food
(4)	takes in carbon dioxide	makes food

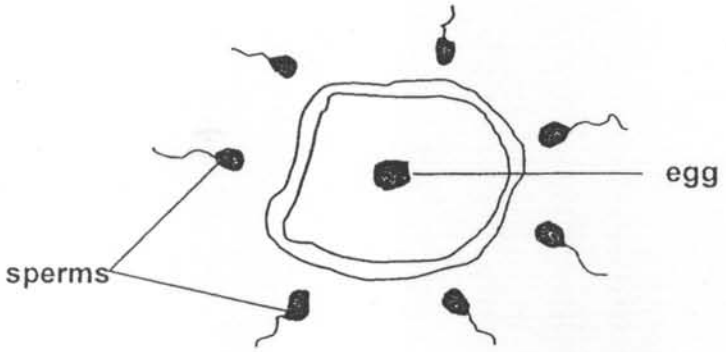
17. The diagram below shows the life cycle of a plant X.
T is the flowering stage.



What are the stages of P, Q, R and S likely to be?

	Stage P	Stage Q	Stage R	Stage S
(1)	Seeds	Adult plant	Fruits	Seedlings
(2)	Adult plant	Seeds	Seedlings	Flowers
(3)	Fruits	Seeds	Seedlings	Adult plant
(4)	Fruits	Seedlings	Adult plant	Flowers

18. The diagram below shows many sperms near an egg.



Which of the following statements about reproduction in animals are correct?

A Female animals produce sperms.
B Only one egg is usually being fertilised by many sperms.
C After fertilisation, the egg will consist of the genetic materials of both parents.
D Fertilisation does not necessarily take place inside the body of female animals.

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

19. Which of the following statements about plants are true?

A Sexual reproduction occurs in all plants.
B New ginger plants may grow from their buds.
C The female cells of a flower are found inside the tip of the pollen tubes.
D In the cucumber plant, the male and female parts are found on separate flowers.

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

20. The following statements describe the different stages that lead to the fertilisation of a flower. However, they are not arranged in the correct order.

P Pollen grains land on the surface of the stigma.
Q A tube containing male cells is produced by each pollen grain.
R The nucleus of the pollen grain fuses with the nucleus of the ovule.
S The pollen sacs release pollen grains.
T Pollen tubes reach the ovules in the ovary.

Which one of the following shows the correct order of the process required?

(1) Q → T → R → S → P

(2) S → Q → P → T → R

(3) P → S → Q → R → T

(4) R → P → Q → T → S

21. The plants below are classified according to their reproductive parts. Which one of the following sets of plants is classified correctly?

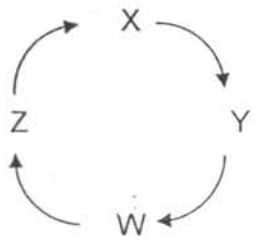
	By Leaves	By Underground Stems	By Suckers	By Seeds
(1)	begonia	carrot	banana	orchid
(2)	sansevieria	tomato	pineapple	rubber
(3)	bryophyllum	ginger	heliconia	strawberry
(4)	African violet	potato	hibiscus	kapok

22. W, X, Y and Z represent four processes in the reproductive cycle of flowering plants.

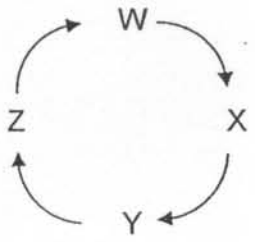
W	germination
X	fertilisation
Y	seed dispersal
Z	pollination

Which one of the following shows the correct order of the four processes?

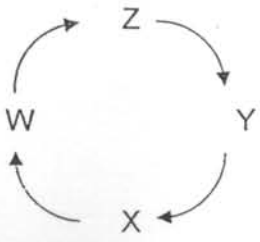
(1)



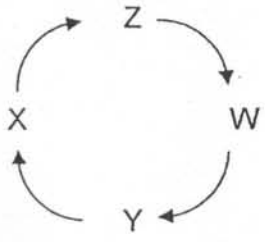
(2)



(3)



(4)



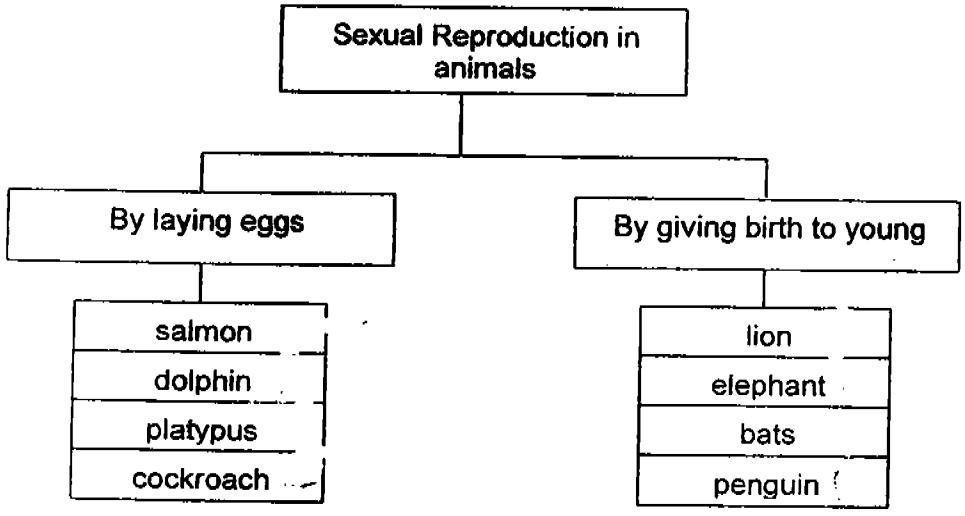
23. Jill conducted an investigation on some flowers from a plant in her garden. The plant produces flowers which have male and female parts in the same flower. She divided the flowers into three groups and removed some parts as shown in the table below. The flowers were left intact on the plant.

Group A	Petals removed
Group B	Stigmas removed
Group C	Anthers removed

Which group(s) of flowers is/are most likely to develop into fruits after two weeks?

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

24. Study the classification chart below.



Which of the following animals are classified wrongly?

(1) penguin and dolphin
(2) salmon and dolphin
(3) platypus, dolphin and bats
(4) cockroach, bats and penguin

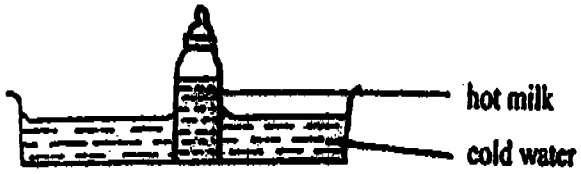
25. Which one of the following describes correctly the similarity between an adult cockroach and its nymph?

(1) Both have no wings.
(2) Both undergo moulting.
(3) Both are the same in size.
(4) Both live in the same habitat.

26. Which one of the following statements about the life cycles of a grasshopper and a moth is incorrect?

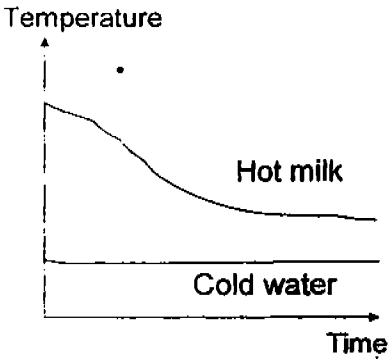
	Grasshopper	Moth
(1)	3 stage life cycle	4 stage life cycle
(2)	Young resembles the adult	Young does not resemble their ~~young~~ Adult
(3)	Lays its eggs on the underside of leaves	Lays its eggs in the sand
(4)	Internal fertilisation	Internal fertilisation

27. A bottle of hot milk is put into a basin of cold water as shown in the diagram below.

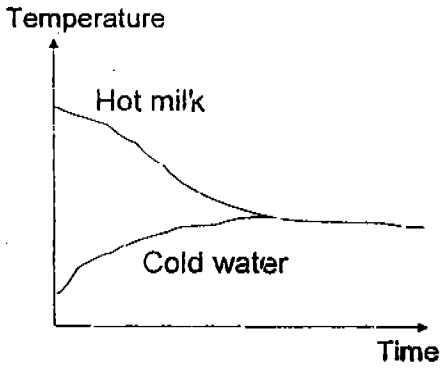


Which one of the following graphs shows the temperature of the hot milk and cold water over a period of time?

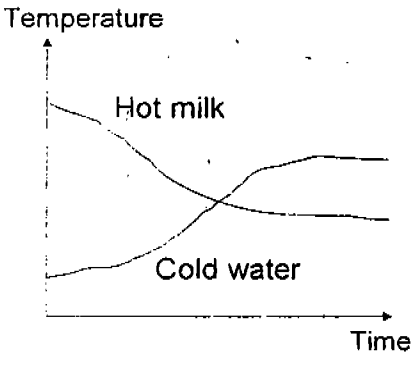
(1)



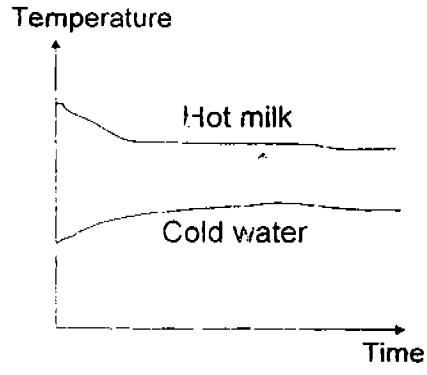
(2)



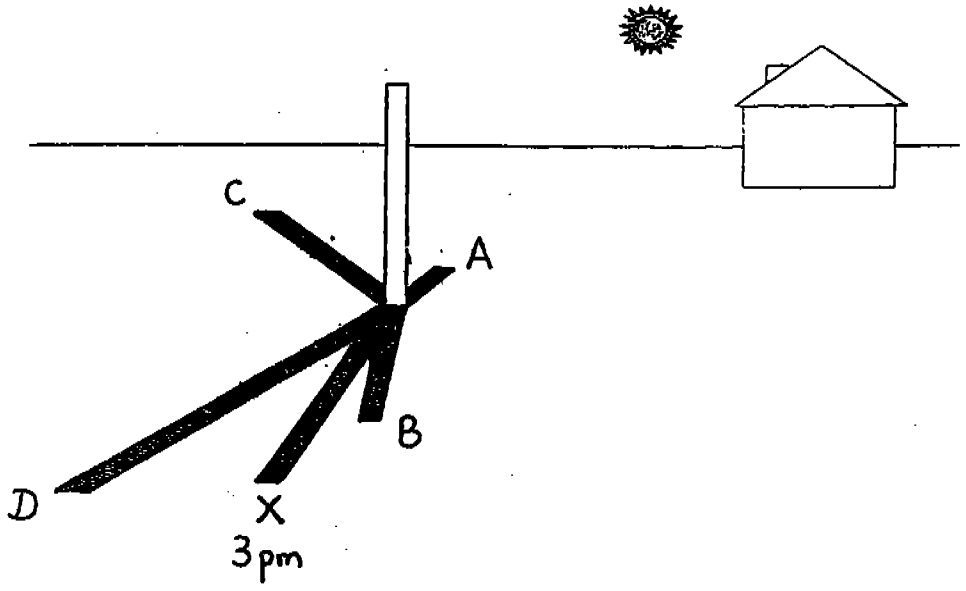
(3)



(4)



28. The diagram below shows the Sun casting a shadow, indicated as X, at 3pm.



Which shadow above, A, B, C or D would be formed at 5pm?

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

29. Which of the following statements are true of man-made satellites?

A They are sent into space using rockets.
B They enable us to study weather patterns.
C They move around the Sun in fixed paths called orbits.

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

30. The pictures below show the shapes of the Moon on different dates.

16 May

23 May

26 May

5 June

On 2 June, the Moon would look like _____.

(1) 

(2) 

(3) 

(4) 

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1
2004

BOOKLET B

Date : 7th May 2004

Duration : 1 h 45 min

Name : _____ _____ _____ _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: .....

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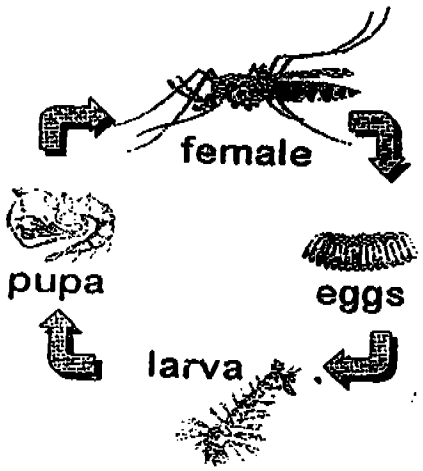
Booklet B consists of 14 printed pages including this cover page.

Section B (40 marks)

Write your answers to questions 33 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

31. The diagram below shows the life cycle of a mosquito.



(a) At which stage of its life cycle is the mosquito harmful? (1 mark)

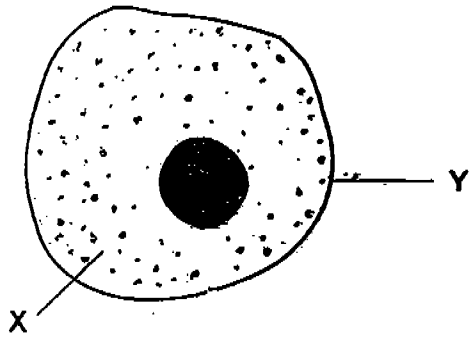
_____

(b) Why do you consider the stage named in (a) harmful? (1 mark)

_____

_____

32. The diagram below shows a **typical animal cell.**



(a) Use an arrow to label on the **diagram** the part of the cell which controls all the activities that take place in the cell. (1 mark)

(b) What is the function of part Y? (1 mark)

_____

_____

(c) (i) Name part X. (1 mark)

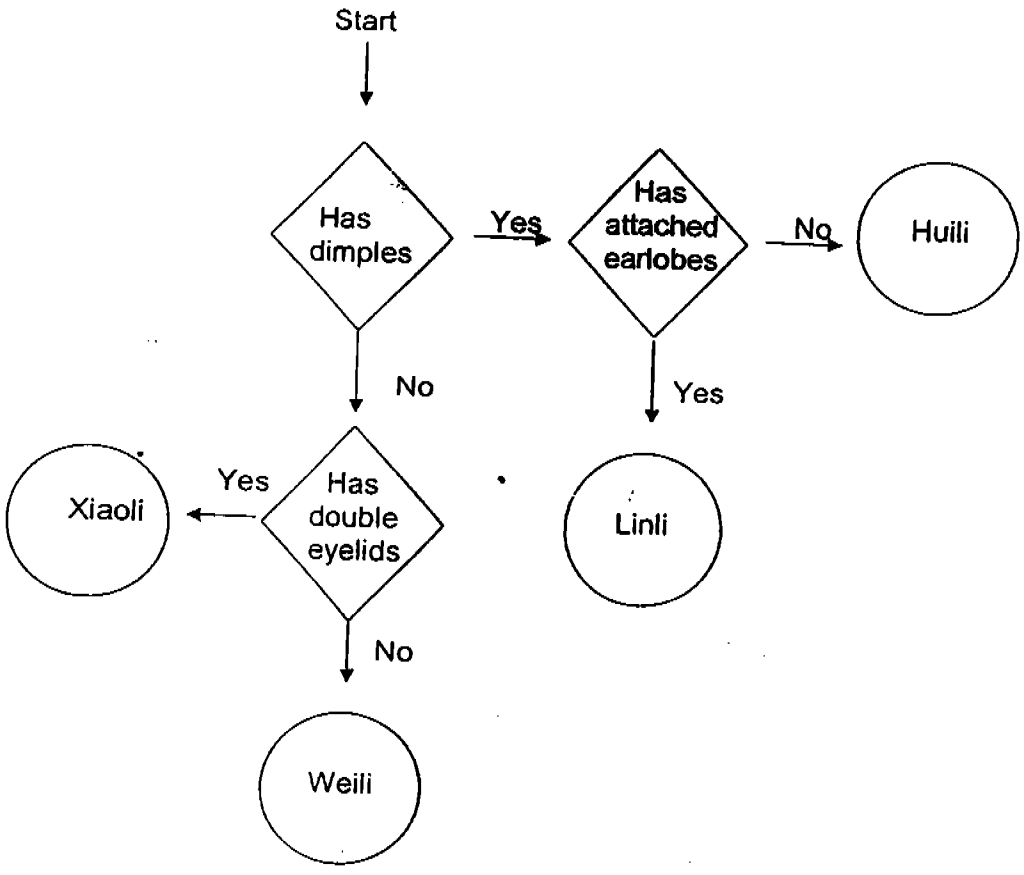
_____

(ii) State its function. (1 mark)

_____

_____

33. The flow chart below shows the traits of Mr and Mrs Lim's four children, Weili, Xiaoli, Huili and Linli.



Both Mr and Mrs Lim have dimples. However, Mr Lim has single eyelids and attached earlobes while Mrs Lim has double eyelids and detached earlobes.

(a) Which child has inherited two traits from Mr Lim? (1 mark)

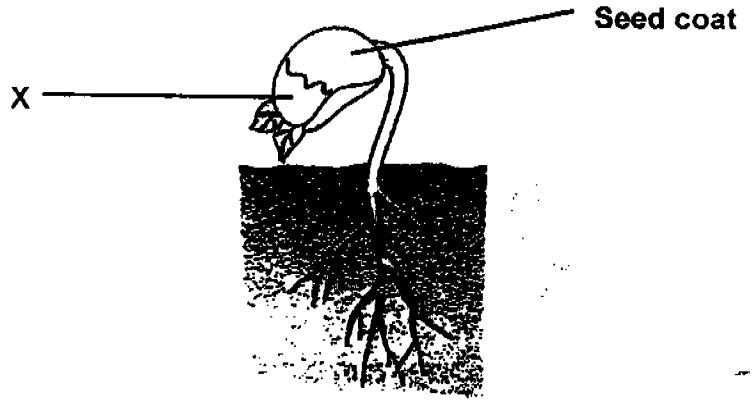
_____

(b) Which trait(s) has/ have Huili inherited from Mrs Lim? (1 mark)

_____

_____

34. Look at the diagram of the seedling as shown below.



(a) Identify Structure X in the diagram. (1 mark)

_____

(b) What is the function of Structure X? (1 mark)

_____

_____

35. In what way is sexual reproduction of animals and that of flowering plants similar? (2 marks)

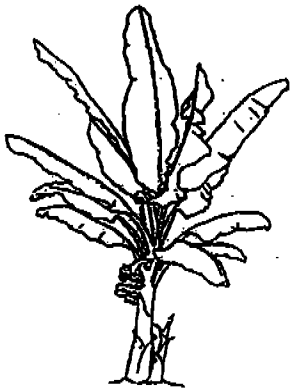
_____

_____

_____

36. The following diagrams show two plants, A and B.

A



B

State (i) one similarity, and (ii) one difference, between A and B.

(2 marks)

(i) Similarity: _____

_____

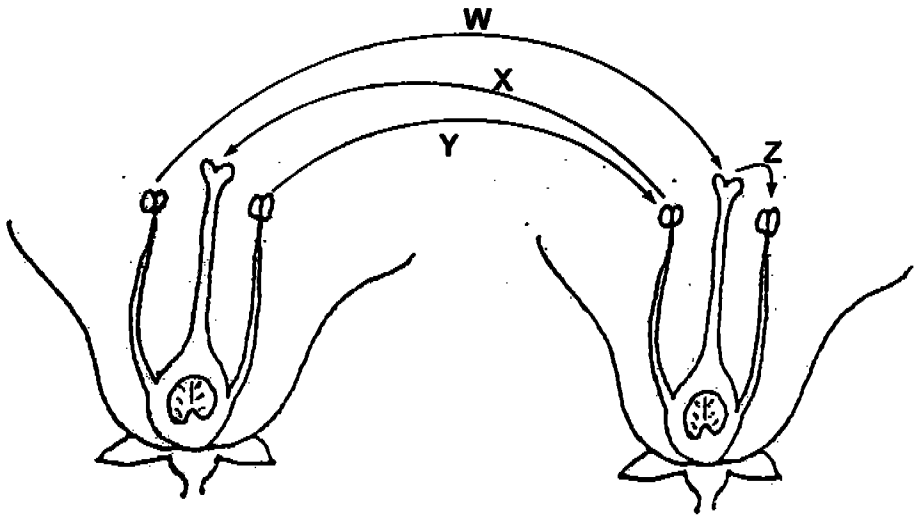
_____

(ii) Difference: _____

_____

_____

37. The diagram below shows the cross section of two flowers of the same type.



(a) Which of the arrows show the transfer of pollen grains that will result in fruit formation? (1 mark)

_____

(b) Name two agents of pollination. (1 mark)

_____

38. Samy conducted an experiment to find out the effects of overcrowding on the growth of balsam plants. He had five containers, A, B, C, D and E with variables as shown in the table below. He ensured that the seeds were well spaced out within each container.

Container	Size of Container	Type of Soil	Number of Seeds
A	small	clayey	5
B	big	garden	10
C	small	sandy	5
D	small	garden	10
E	big	sandy	5

(a) Which of the containers above would he choose to carry out a fair experiment? (1 mark)

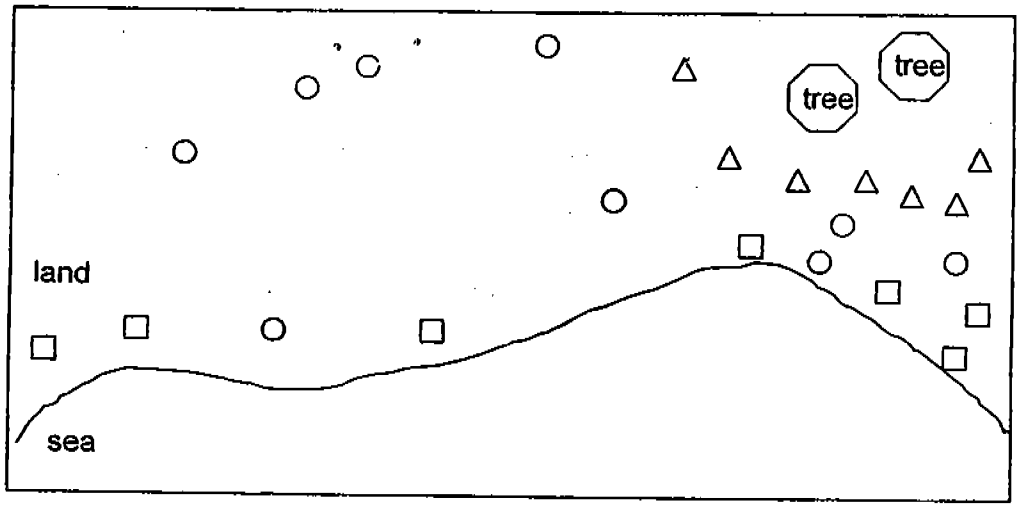
(b) Why is it necessary for plants to ensure that their seeds do not experience overcrowding? (2 marks)

39) Give two reasons why both frogs and toads need to lay a large number of eggs in water. (2 marks)

40. The pictures below show three different fruits P, Q and R.

P Q R

After P, Q and R were dispersed, they were found at different parts of a plot of land as shown below.



Match the fruits P, Q and R to the symbols which represent them.

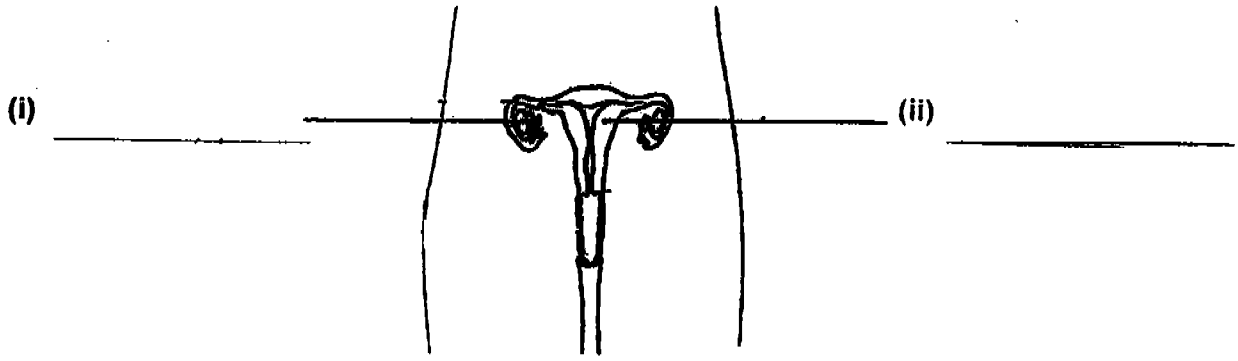
(3 marks)

(a) △ represents

(b) □ represents

(c) ○ represents

41. The female reproductive system is shown in the diagram below.

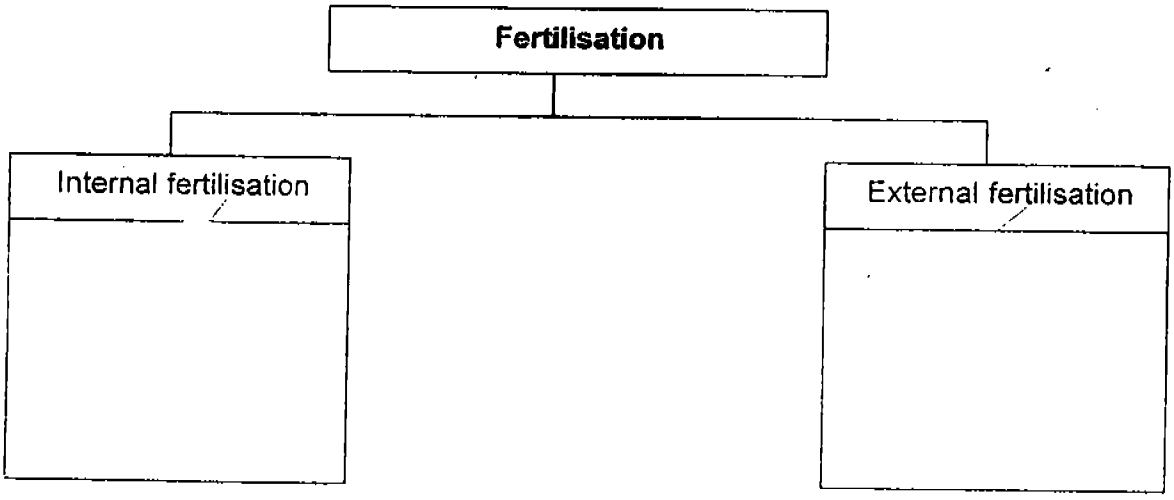


(a) Name the different parts (i) and (ii) of the female reproductive system.

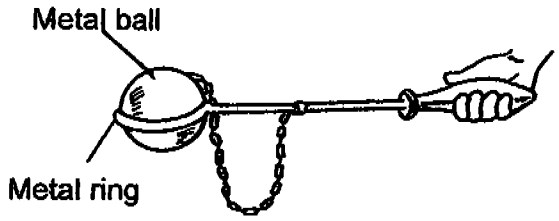
(1 mark)

(b) Classify the following animals into the appropriate column of the classification chart below. (2 marks)

- Chicken
- Goldfish
- Human
- Frog



42. When Sumin tried to put the metal ball through the metal ring, she found that she could not do so.



Suggest two different methods in which Sumin could make the metal ball go through the metal ring.

(2 marks)

(a) _____

_____

(b) _____

_____

43. The table below shows the average gestation period of 4 animals.

Animal	Average Gestation period
Elephant	22 months
Rat	21 days
Human	9 months
Dog	9 weeks

(a) Based on the information above, what is the relationship between the animal size and their gestation periods? (1 mark)

_____

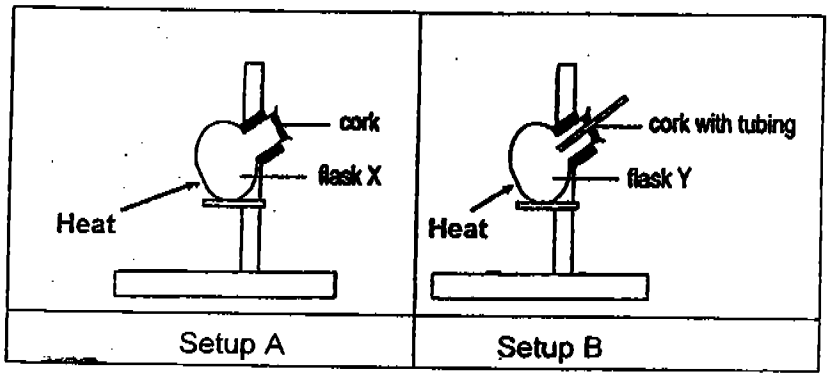
_____

(b) Why is there a need for these animals to reproduce? (1 mark)

_____

_____

44. Flask X and Flask Y were heated as shown in the diagram below.



(a) After some time, what would be observed in each setup? (1 mark)

_____

_____

(b) Explain your answer in (a). (2 marks)

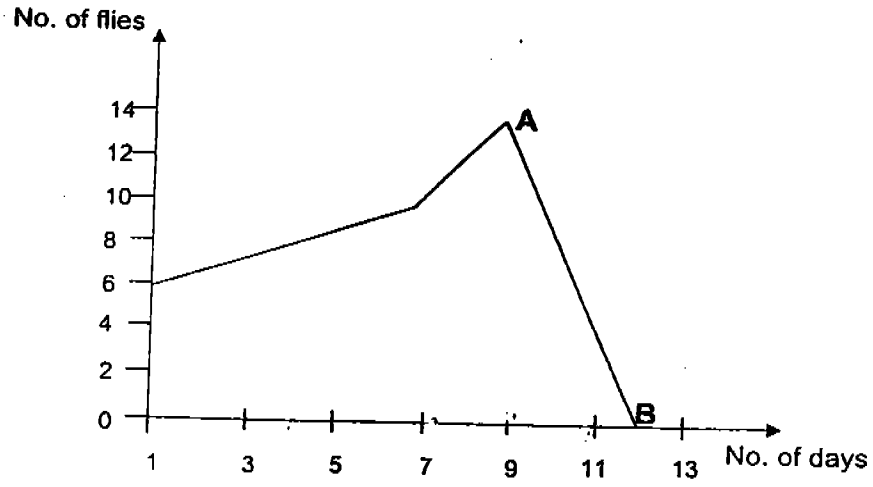
_____

_____

_____

_____

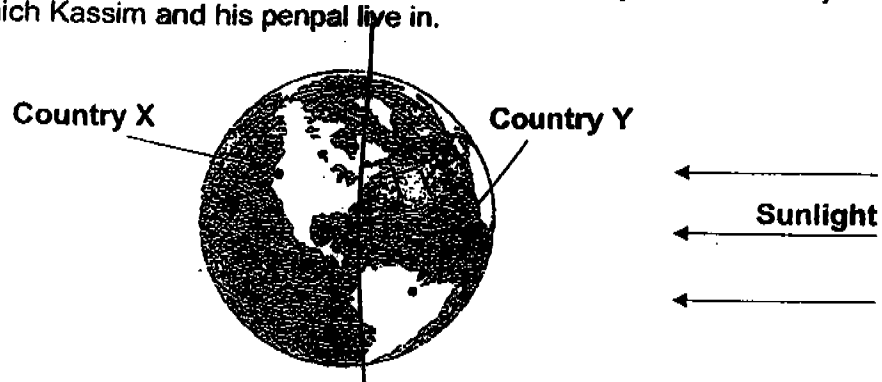
45. Mr Lim conducted an experiment to study the changes in population of flies over a period of time. He placed some flies in a sealed container with a material that only allowed air to enter. Some banana and water were also placed in the container. After the completion of the experiment, he recorded his results on a graph as shown below.



(a) Assuming that no flies were introduced after Day 1, give one possible reason for the increase in the number of flies between Day 7 and Day 9.
(1 mark)

(b) Assuming that no predators were introduced, explain what could have caused the decrease in the population of flies from A to B.
(2 marks)

46. The diagram below shows the positions of Country X and Country Y in which Kassim and his penpal live in.



(a) In his letter, Kassim indicates that he will see sunrise before his penpal does every day. In which country does Kassim live in?

(1 mark)

----------END OF PAPER----------

Setters:

Mrs Jennifer Wong
Mrs Janice Toh

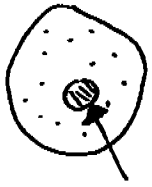
SA1

NANYANG PRIMARY SCHOOL
PRIMARY 5 SCIENCE
SEMESTRAL ASSESSMENT 1 - 2004

1) 3
2) 2
3) 4
4) 4
5) 1
6) 3
7) 2
8) 1
9) 3
10) 4
11) 4
12) 1
13) 4
14) 2
15) 1
16) 3
17) 3
18) 3
19) 3
20) 1
21) 3
22) 1
23) 3
24) 1
25) 4
26) 3
27) 2
28) 4
29) 2
30) 3

31) a) It is the adult stage.

b) If it sucks blood from a person who have a disease and sucks blood from you with the same needle, you will get the disease.

32) a) 

b) It allows certain substances to enter the cell.

c) Cytoplasm

ii) It is the site of chemical functions essential for the cell survival.

33) a) Linli inherited two traits from Mr. Lim.

b) She had inherited Mrs Lim dimples.

34) a) It is the seed leaves.

b) It contains stored food for the plant before it can photosynthesize and make its own food.

35)

36) i) Both have buds.

ii) A is reproduced by underground stem and B reproduces from suckers.

37) a) W and X

b) It is wind and insects.

38) a) B and D

b) It is necessary to avoid competition for and water.

39) Not all eggs will be fertilised and some of the eggs may be eaten by predators.

40) a) Q b) R c) P

41) i) ovary ii) womb

b) Human
Chicken
Frog
Goldfish

42) a) Heat the metal ring with a candle so that it will expand.

b) Cool the metal ball by putting it in ice so that it will contract.

43) a) The bigger the size of an animal, the longer it takes to give birth.

b) To ensure the continuity of their kind.

44) a) The cork in flask X wil be forced out but the cork in flask Y remains.

b) Condensation of warm water vapour in the beaker on the cooler upper surface.

45) a) They reproduced.

b) There was no more food.

46) a) Kassim lives in Country Y.

b) The earth spins anti-clockwise, so Kassim would see sunrise first.