Name : _____ ( )

Class : Primary 3 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE
STEADFAST IN DUTY
纯 义 坚

Primary 3
Semestral Assessment 2 – 2012
SCIENCE

BOOKLET A

24th October 2012

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This paper consists of 22 printed pages.

75

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 answer (1, 2, 3 or 4) in the Optical Answer Sheet (OAS) provided.

1. The diagram below shows a millipede before and after it was touched.

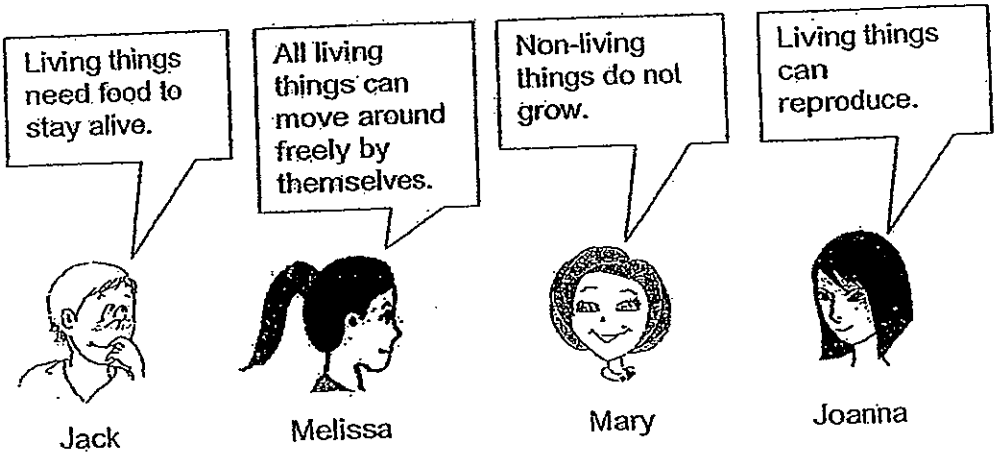
before touching

after touching

Which characteristic of living things does the millipede show?

(1) Living things can grow.
(2) Living things can reproduce.
(3) Living things can move around freely..
(4) Living things can respond to changes.

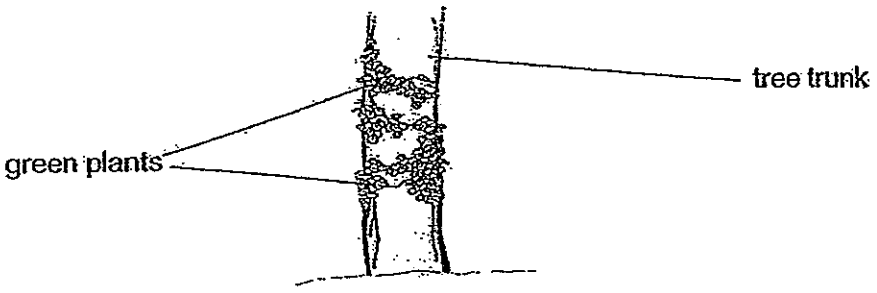
2. Four pupils, Jack, Melissa, Mary and Joanna, made some statements about living things and non-living things.



Which one of the above pupils has made an <u>incorrect</u> statement?

(1) Jack
(2) Mary
(3) Joanna
(4) Melissa

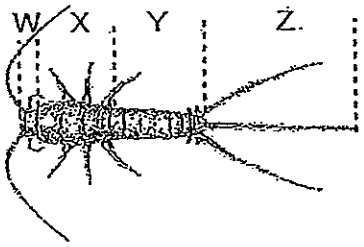
3. Kelly and her friends noticed some green plants growing on a tree trunk. Kelly told her friends that they were non-flowering plants as they did not have flowers.



Kelly's friends could confirm her statement by finding out if the plants had _____.

(1) roots
(2) stems
(3) leaves
(4) spore bags

4. The diagram below shows an insect.



Which of the above parts X, Y or Z represent(s) the abdomen of the organism shown above?

(1) W only
(2) X only
(3) Y only
(4) Y and Z only

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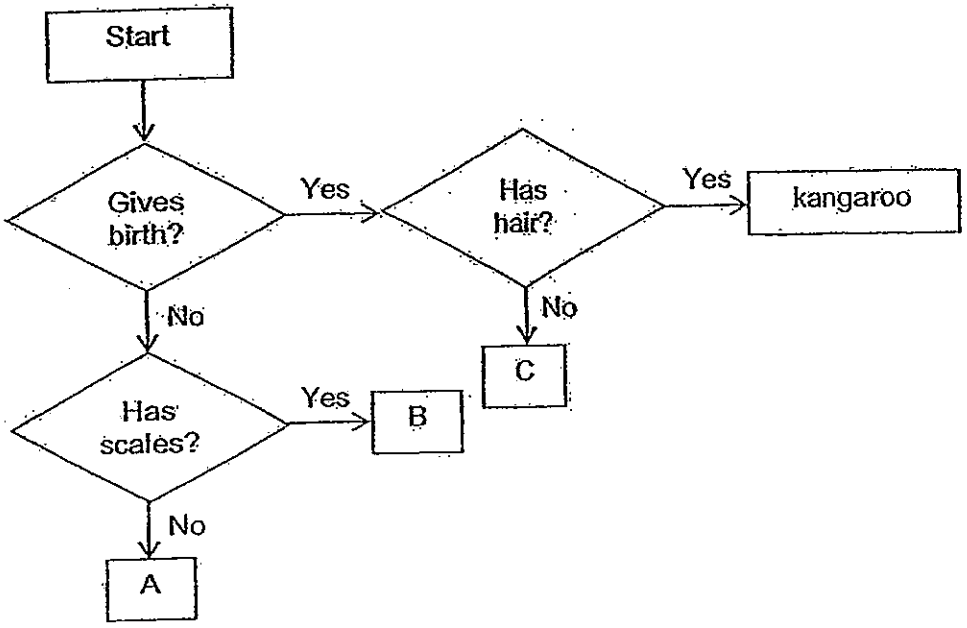
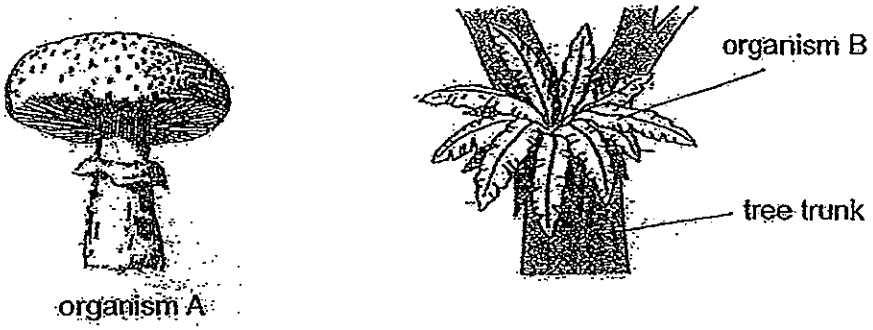
5. Study the flowchart below carefully.



Which one of the following best represents A, B and C respectively?

	A	B	C
(1)	eagle	crocodile	dolphin
(2)	parrot	guppy	whale
(3)	butterfly	lizard	platypus
(4)	platypus	goldfish	guppy

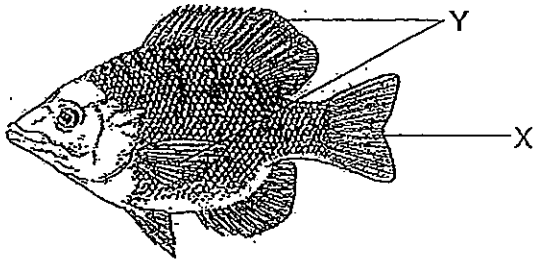
6. The diagram below shows two organisms, A and B.



Based on your observation of the above diagram, which one of the following statements about the above organisms is correct?

(1) Organisms A and B have stems.
(2) Organisms A and B reproduce from spores.
(3) Organism A has no leaves but organism B has leaves.
(4) Organism A is an adult plant but organism B is a young plant.

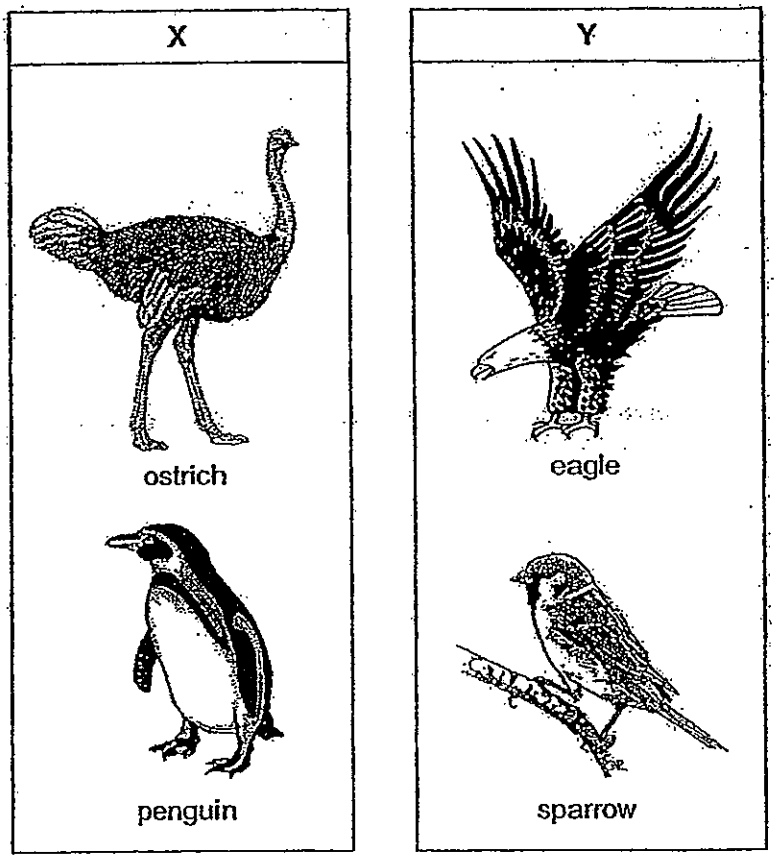
7. The diagram below shows a fish.



Which one of the following is <u>not</u> a function of parts X and Y of the fish?

(1) To help the fish move forward.
(2) To help protect the fish's body.
(3) To help the fish to balance itself in water.
(4) To help the fish to change its direction of movement.

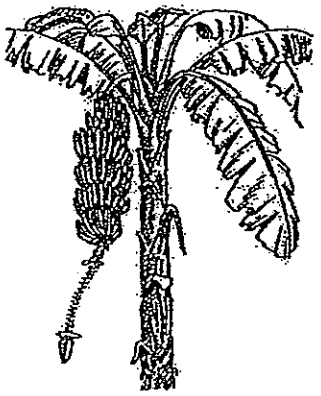
8. The diagram below shows 2 groups of animals.



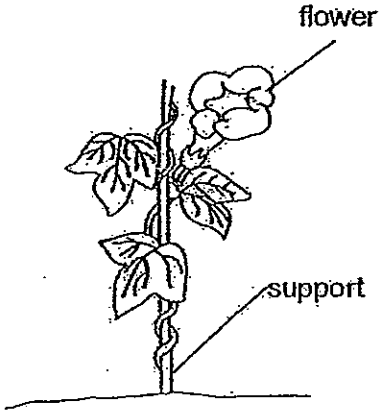
Which one of the following correctly represents headings X and Y?

	X	Y
(1)	Lay eggs	Give birth
(2)	Mammals	Birds
(3)	Cannot fly	Can fly
(4)	Has hair on its body	Has feathers on its body

9. The diagram below shows two plants.



Banana plant



Morning glory plant

Based on what is observable in the diagram above, how is the banana plant similar to the morning glory plant?

A Both have roots.
B Both have fruits.
C Both have stems.
D Both have leaves.

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

10. Laura observed 3 organisms W, X, and Y in a zoo. She classified the organisms based on the characteristics she observed and recorded her findings in the table shown below.

Organism	Able to move from place to place	Has wings	Has hair
W			
X	√	√	
Y	√	√	√

Based on her findings in the above table, identify organisms W, X and Y.

	W	X	Y
(1)	snail	spiny anteater	parrot
(2)	tortoise	eagle	bat
(3)	water lily plant	swan	squirrel
(4)	papaya tree	butterfly	bat

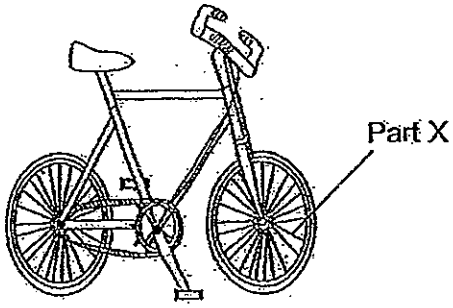
11. Melissa was given four objects, P, Q, R and S, made of different materials. The table below shows the characteristics of the materials.

	Characteristics		
Object	Is it hard?	Is it flexible?	Is it waterproof?
P	No	Yes	No
Q	Yes	No	Yes
R	No	Yes	Yes
S	Yes	No	Yes

Which one of the following correctly represents objects P, Q, R and S?

	P	Q	R	S
(1)	styrofoam plate	wooden ruler	cotton shirt	glass door
(2)	drinking straw	leather belt	writing paper	clay pot
(3)	writing paper	metal ruler	rubber band	window pane
(4)	shower curtain	rubber boot	tissue paper	plastic plate

12. The diagram below shows a bicycle. Part X of the bicycle helps to support the weight of the rider.

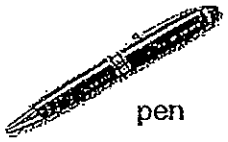


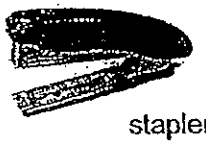
Based on the function of part X stated above, which of the following properties should the material used to make Part X of the bicycle have?

A hard
B strong
C flexible
D waterproof

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

13. Which one of the following items is <u>not</u> an example of a system?


pen

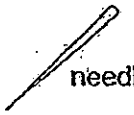

stapler


eraser


water bottle

(1) pen
(2) stapler
(3) eraser
(4) water bottle

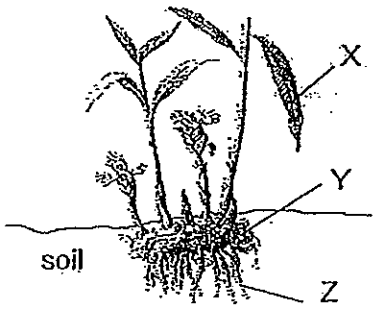
14. Martin classifies four objects into two groups as shown below.

Group X	Group Y
 styrofoam cup	 glass cup
 balloon	 needle

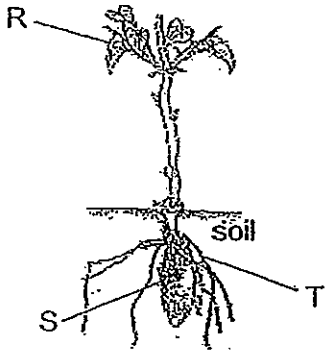
The objects have been classified according to _____.

(1) their size
(2) how hard they are
(3) whether they are waterproof
(4) whether they allow light to pass through

15. The diagram below shows a ginger plant and a yam plant.



ginger plant

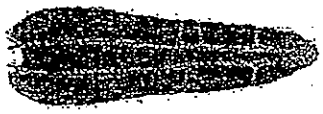
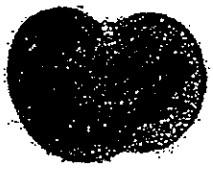


yam plant

Which of the above plant parts transport water to the rest of the plant?

(1) X and R only
(2) Y and S only
(3) Z and T only
(4) S, T, Y and Z only

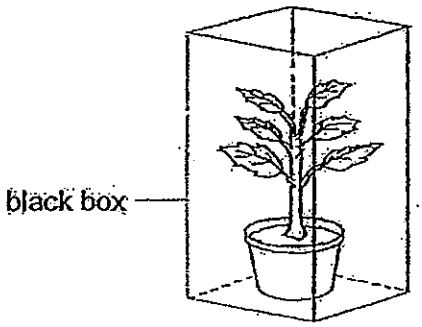
16. Eliza bought some vegetables from the market. She grouped the vegetables into 2 groups, A and B, as shown below.

Group A	Group B
 carrot  potato	 cucumber  tomato

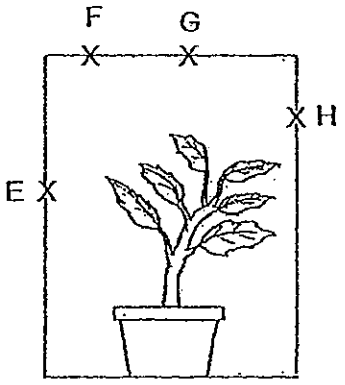
Which one of the following best represents headings A and B?

	A	B
(1)	Fleshy	Non-fleshy
(2)	Non-fruits	Fruits
(3)	Have one seed	Have many seeds
(4)	Has smooth skin	Has rough skin

17. Tansy put a plant inside a black box as shown below. She then made a hole in the box before placing the set-up in a well-lit place and she watered the plant daily.



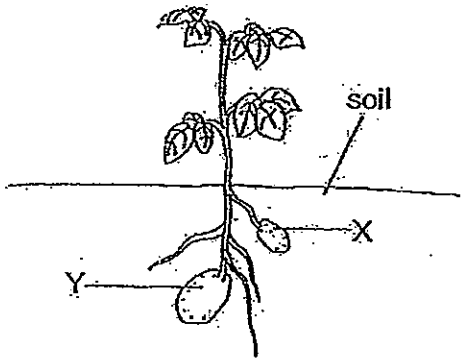
A few days later, she observed that as the plant grew, the stem bent as shown in the diagram below.



At which of the above position, E, F, G or H, is the hole made in the box?

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

18. The diagram below shows a potato plant.



How does part X obtain its food?

(1) The food is made by X itself.
(2) The food is transported from Y.
(3) The food is absorbed from the soil.
(4) The food is transported from the leaves.

19. Four pupils were asked to make some statements on their understanding of the water-carrying and food-carrying tubes of a plant.

Pupils	Statements
Anna	The water-carrying tubes carry water to the flowers.
Bernice	Only the water-carrying tubes are present in a celery stalk.
Chloe	The food-carrying tubes carry food from the leaves to every part of the plant.
Danielle	The food-carrying tube is known as the xylem.

Which of the above pupils had made the correct statements?

(1) Anna and Chloe only
(2) Bernice and Danielle only
(3) Anna, Bernice and Chloe only
(4) Anna, Chloe and Danielle only

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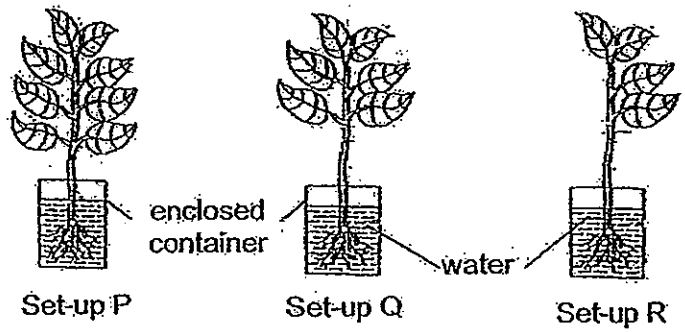
20. Ah Seng conducted an experiment using 3 set-ups, P, Q and R, as shown below. He placed 200ml of water and a plant into each of the containers.



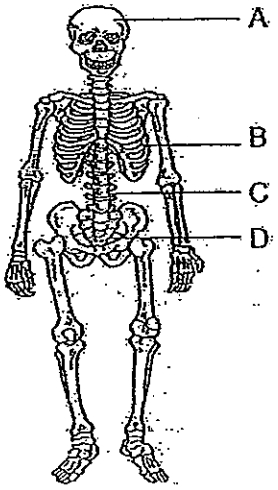
3 days later, he recorded the volume of water in each container in the table below.

Set-up	Original volume of water (ml)	Volume of water left after 3 days (ml)
P	200	180
Q	200	190
R	200	195

What is the aim of Ah Seng's experiment?

(1) To find out if the number of leaves affect the growth of the plant.
(2) To find out if the presence of leaves affect the growth of the plant.
(3) To find out if the presence of leaves affect the amount of water absorbed by the plant.
(4) To find out if the number of leaves affect the amount of water absorbed by the plant.

21. The diagram below shows a human body system.



Which one of the above labelled parts protects our lungs and heart?

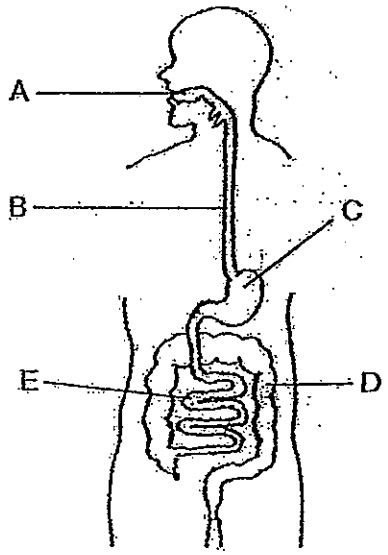
(1) A
(2) B
(3) C
(4) D

22. Which of the following actions directly involve the use of the muscular system?

A Writing
B Thinking
C Frowning
D Sticking out your tongue

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

23. The diagram below shows the human digestive system.

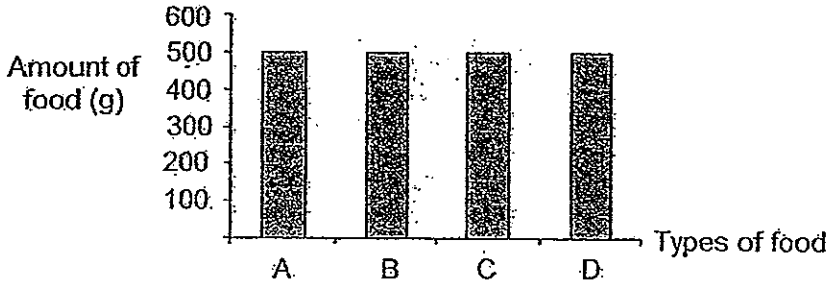


In which of these parts, A, B, C, D or E, are digestive juices produced?

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

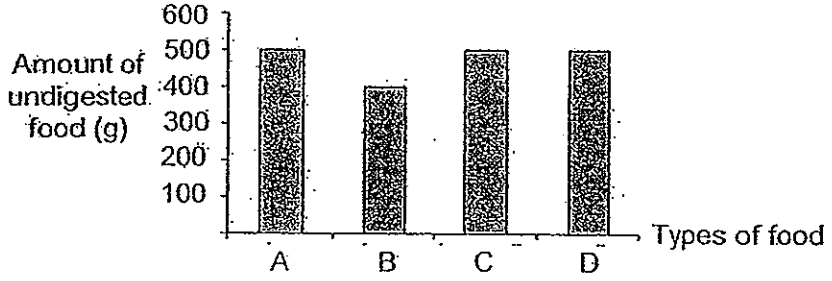
24. The graph below shows the amount of food A, B, C and D consumed.

At the beginning

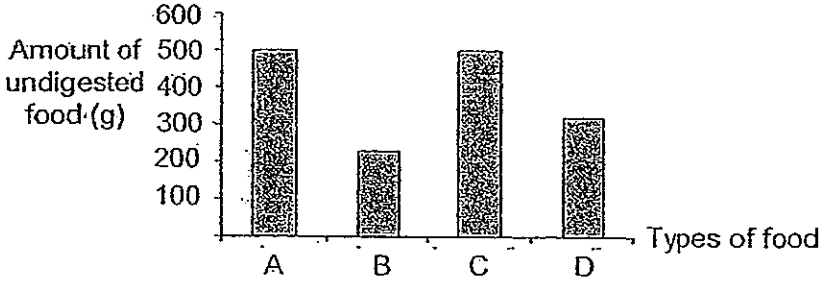


The following graphs show the amount of undigested food A, B, C and D found in different parts of the human body.

In the mouth



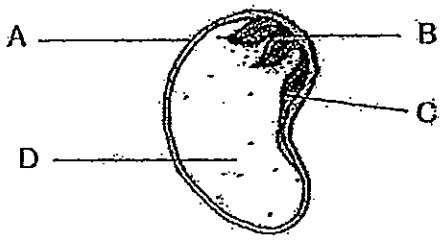
In the stomach



Based on the graphs above, which one of the following statements about the digestion of food A, B, C and D is correct?

(1) B is mostly digested in the mouth.
(2) D is digested in the stomach but not in the mouth.
(3) A and C cannot be digested by the digestive system.
(4) D can be digested in the mouth if it is chewed thoroughly.

25. The diagram below shows the cross-section of a seed.

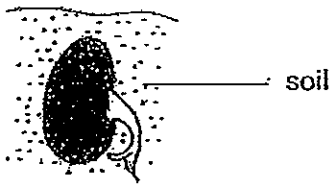


Which of the following correctly identifies the part that protects the seed and the part that provides food for the germinating seed?

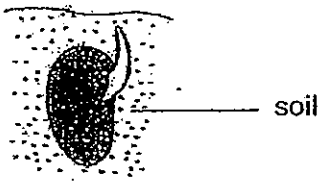
	Protects the seed	Provides food for the germinating seed
(1)	A	C
(2)	B	D
(3)	A	D
(4)	D	C

26. Samad studied the germination of a certain seed. Which one of the following shows what he would first observe?

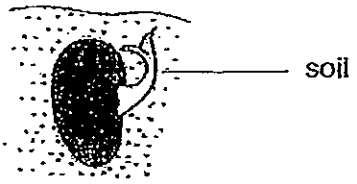
(1)



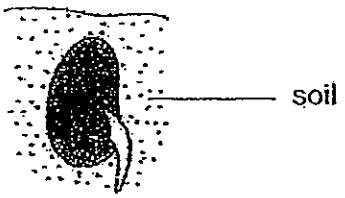
(2)



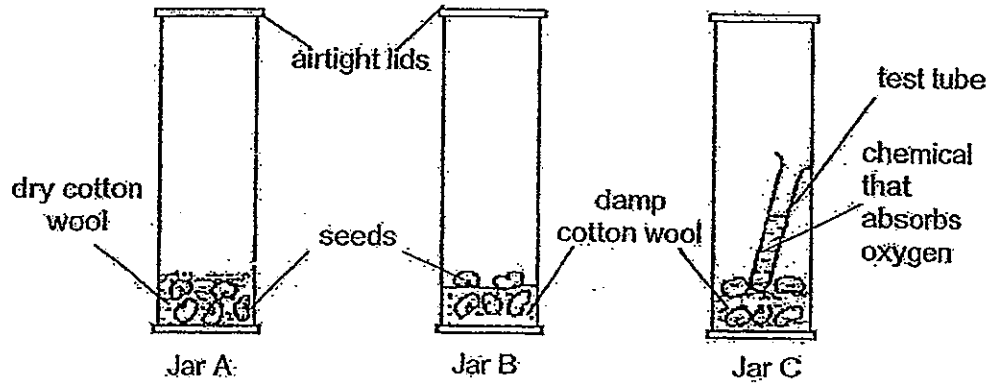
(3)



(4)



27. The diagram below shows three gas jars, A, B and C, each containing 5 seeds. Jar A is placed near the window while jars B and C are placed in a cupboard.

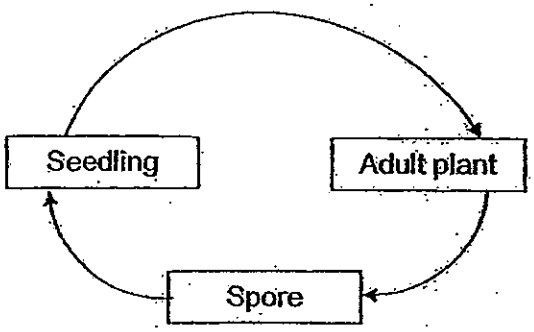


In which jar(s) will the seeds <u>not</u> be able to develop into seedlings?

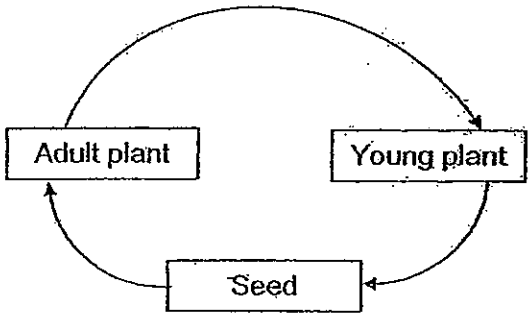
(1) A only
(2) B and C only
(3) A and C only
(4) A, B and C

28. Which one of the following shows the correct life cycle of a flowering plant?

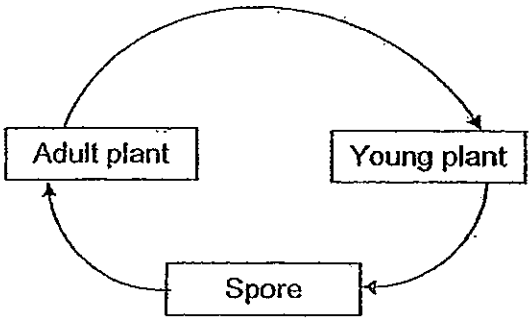
(1)



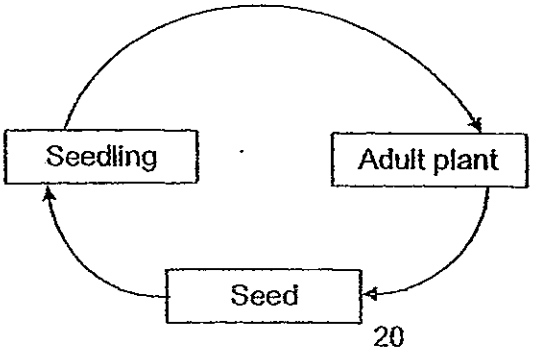
(2)



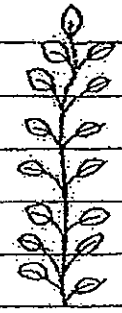
(3)



(4)



29. Qihong planted 5 pots of string bean seedlings. He watered the pots of seedlings daily with different amounts of water. The chart below shows the height of the string bean seedlings at the end of 3 weeks.

Pot	A	B	C	D	E
Height of seedlings (cm) 25 20 15 10 5 0					
Amount of water given daily	20cm^3	40cm^3	55cm^3	60cm^3	75cm^3

Based on the above results, what could Qihong conclude about the growth of the string bean seedlings?

(1) All the string bean seedlings grew to the same height.
(2) The plants had thicker stems when more water was given.
(3) The more water the string bean seeds received, the taller they grew.
(4) The amount of water given did not affect the growth of the string bean plants.

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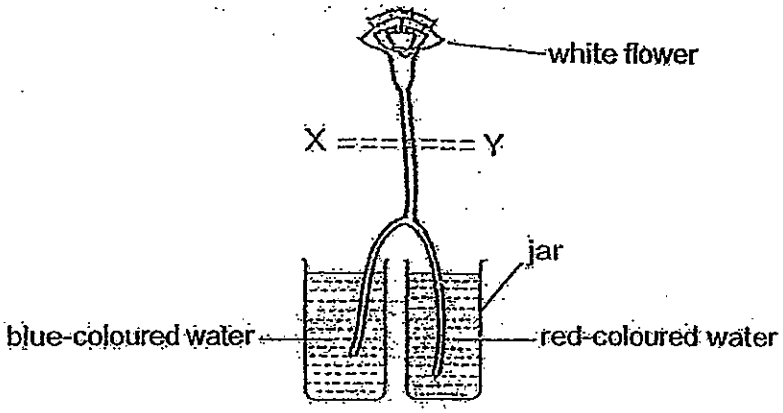
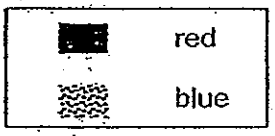
30. Anthea split the stalk of a white flower into half as shown in the diagram below.

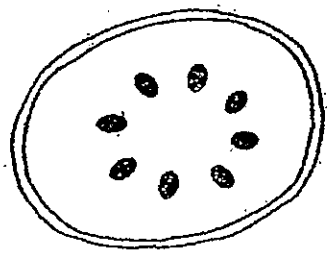


She placed one half of the stalk of the flower in a jar with blue-coloured water while the other half in a jar with red-coloured water. The next day, she observed that half of the flower became blue and the other half became red. She cut the stalk at the part labelled XY and saw that certain parts were stained.

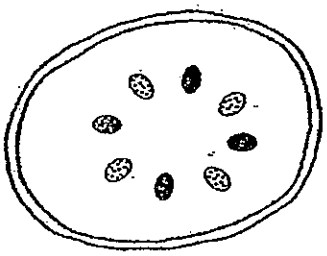
Which one of the following shows the cross-section of the stalk observed by Anthea?



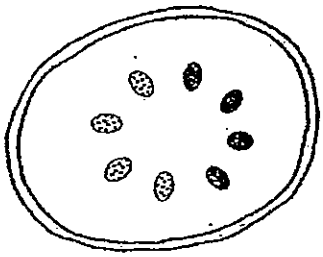
(1)



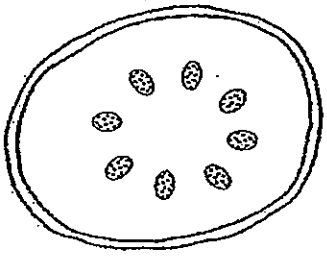
(2)



(3)



(4)



End of section A

Name : _____ ( )

Class : Primary 3 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

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Primary 3

Semestral Assessment 2 – 2012

SCIENCE

BOOKLET B

24th October 2012

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

14 questions
40 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 14 printed pages.

_____
Parent's Signature/Date

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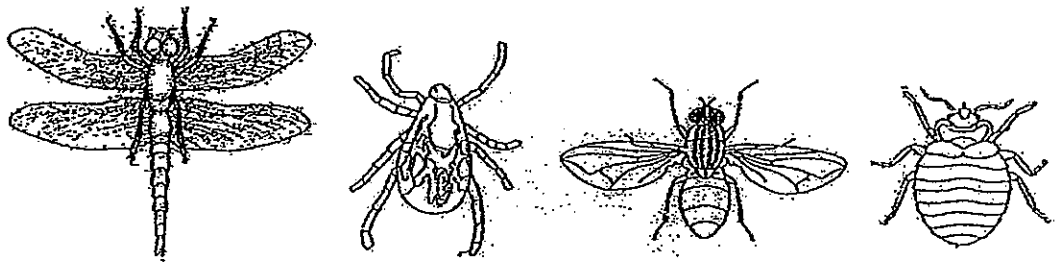
Section B (40 marks)

For questions 31 - 44, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. The diagram below shows four different animals P, Q, R and S.



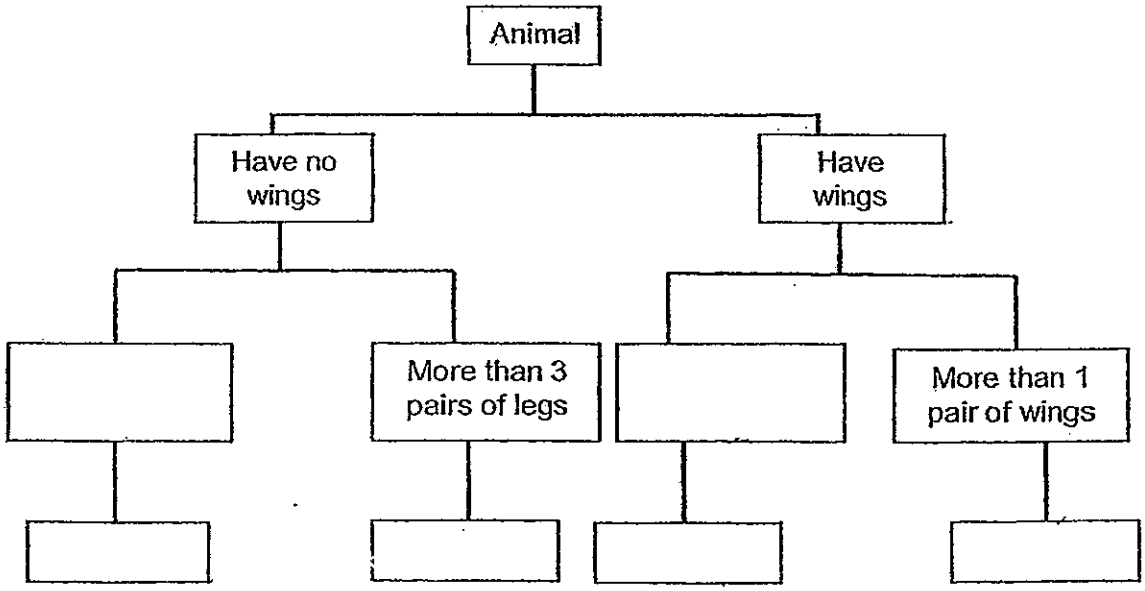
P Q R S

(a) Which of the above animals is/are not an insect (s)? Explain your answer. [1½]

_____

_____

(b) Based on the observations made of the animals given above, complete the classification chart below by filling in the boxes. [2]



32. Janna tested the hardness of four materials, W, X, Y and Z by using an iron nail to scratch them. She scratched each material the same number of times with the same amount of force and recorded her findings in the table below.

Materials	Observations
W	Deep scratches
X	No scratches
Y	Light scratches
Z	Very deep scratches

(a) Arrange the materials in order, beginning with the hardest. [1]

_____, _____, _____, _____

hardest least hard

(b) If all the materials were transparent, which of the above materials, W, X, Y and Z should Janna choose to make part R of the spectacles shown in the diagram below? Explain how the choice of the material is helpful to the wearer. [2]

_____

_____

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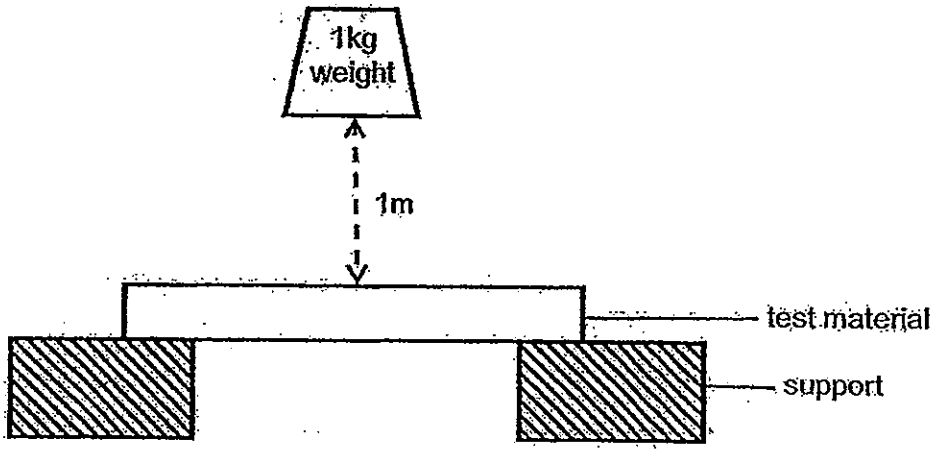
33. Joanna tested the strength of five materials by dropping a 1kg weight from a height of 1m. The materials were of the same size and shape. She noted the number of times the weight was dropped before each of the materials broke.



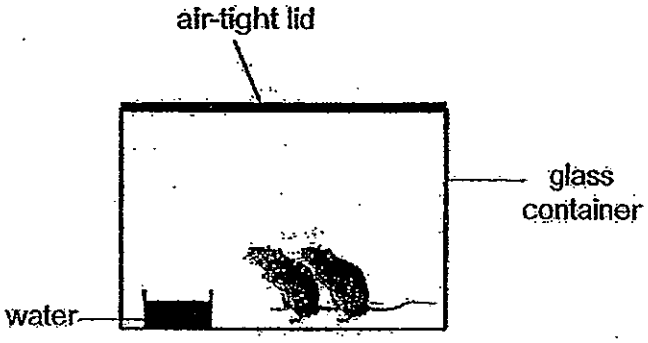
Her results are shown in the table below.

Material	Number of hits to break the material
A	45
B	27
C	58
D	20
E	47

(a) Which material should Joanna choose to make a chair? [1]

(b) Explain your answer in (a) [2]

34. Huili set up an experiment as shown below. She placed a bowl of water and two mice in a glass container covered with an air-tight lid.



(a) What do you think will happen to the mice after a day? [1]

(b) Explain your answer in (a). [1]

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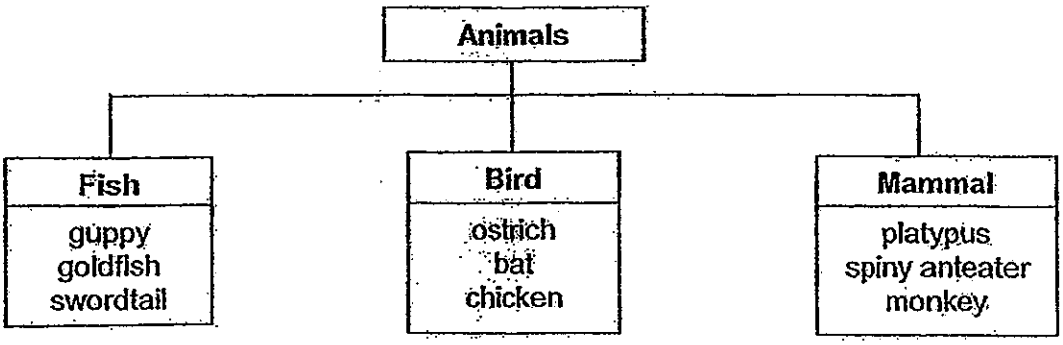
35. Study the classification chart given below.



(a) Which animal in the classification table above has been grouped wrongly? Explain your answer. [1]

_____

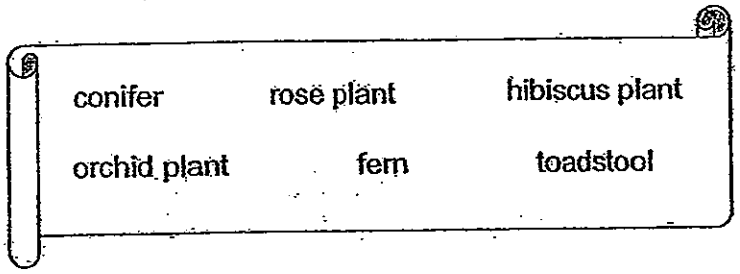
_____

(b) State one difference in the physical characteristic between a fish and a mammal. [1]

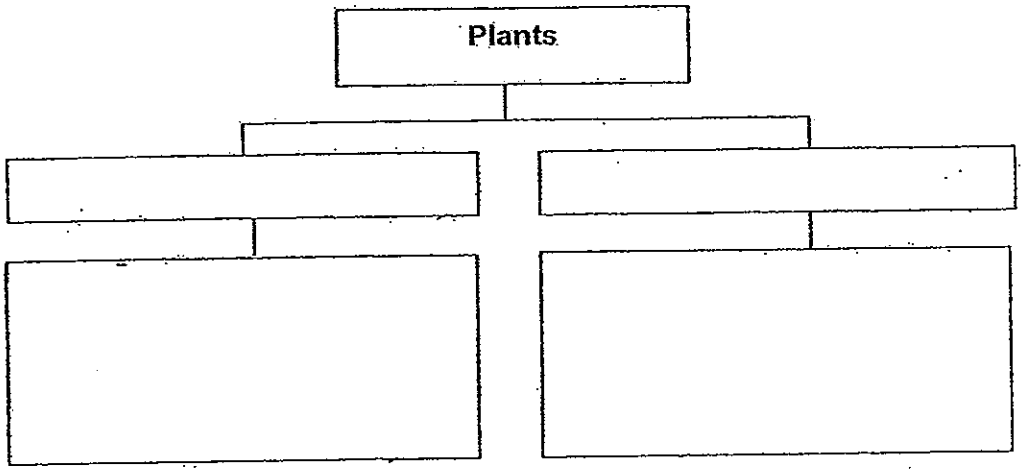
_____

_____

36. Tom was given a list of organisms as shown below.



He was given a classification chart below to help him classify them as best as he could. Help Tom to complete the classification chart below by filling in the boxes.
[2]



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37. Fatimah carried out an experiment using 3 pots of balsam plants, D, E and F. She removed a plant part from each balsam plant and left the plants in the garden. The table below shows the plant part that she had continuously removed from each plant.

Plant	Part removed	Amount of water given
D	Fruits	200ml
E	Flowers	200ml
F	Leaves	200ml

(a) After a period of time, which plant D, E or F will most likely die first? [1]

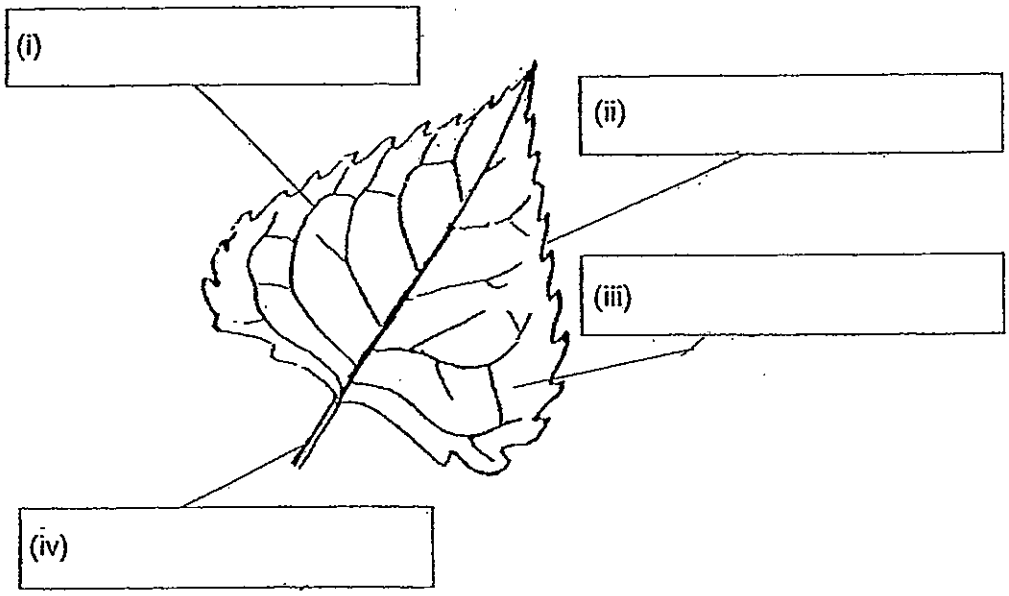
_____

(b) Explain your answer in (a) [1]

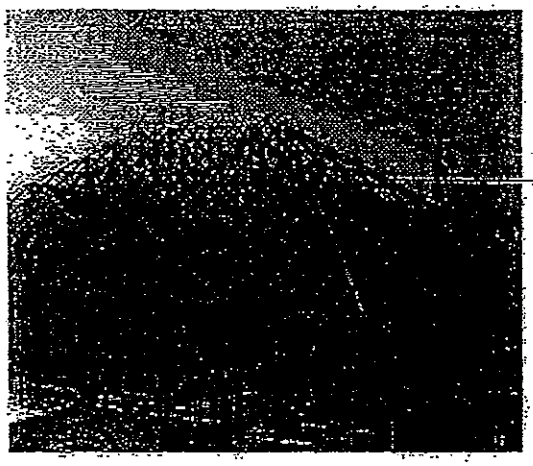
_____

_____

(c) The diagram below shows a leaf. Name the parts labelled (i) to (iv) in the diagram below. [2]



38. Winnie walks past a construction site and she sees the workers building the steel frame of a house as shown below.



(a) Name the human body system that performs the same function as the steel frame of the house. [1]

_____

(b) State 2 similarities between the function of the human body system and the steel frame of the house. [2]

(i) _____

(ii) _____

39. The table below shows the function of the parts of the digestive system. Put 'T' for True or 'F' for False for each statement. [3]

	Statement	'T' / 'F'
(a)	Saliva makes food easier to swallow.	
(b)	Water from the undigested food is absorbed into the bloodstream in the large intestine.	
(c)	The gullet churns the food with the digestive juices.	
(d)	Solid waste is stored in the rectum before it is passed out.	
(e)	The tongue breaks down the food into simpler substances.	
(f)	Digested food is absorbed through the small Intestine into the bloodstream.	

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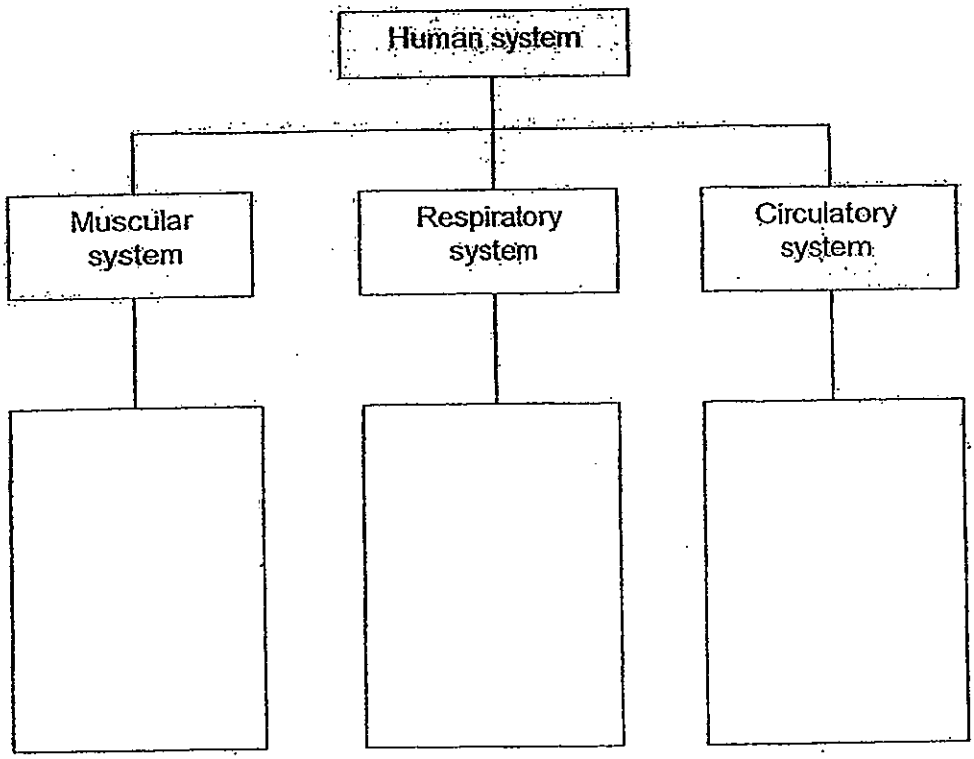
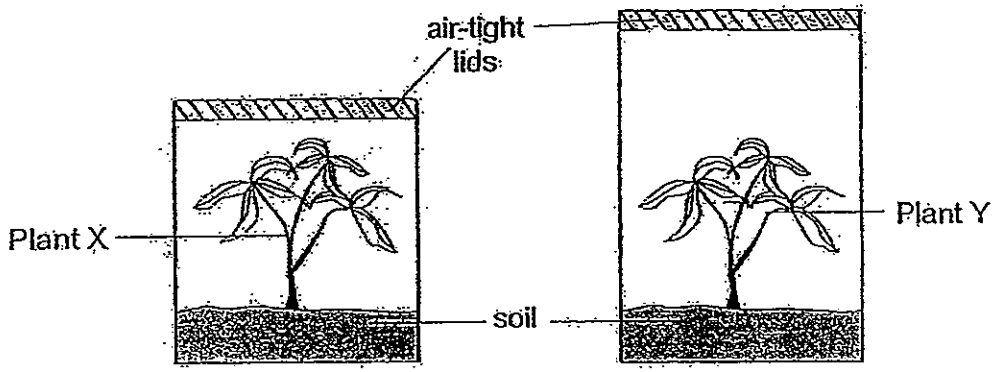
40. Classify the following parts under the correct human system. [3]

muscles	lungs	heart
windpipe	blood vessels	nose



41. Steven did an experiment using two similar plants, X and Y. He placed them in two glass jars of different sizes as shown below. He watered the plants before the jars were placed under a bright light.



After two weeks, he noticed that plant Y grew healthier than plant X.

(a) What was the aim of Steven's experiment? [1]

(b) Suggest a reason for the difference in Steven's observation of plants X and Y after two weeks. [1]

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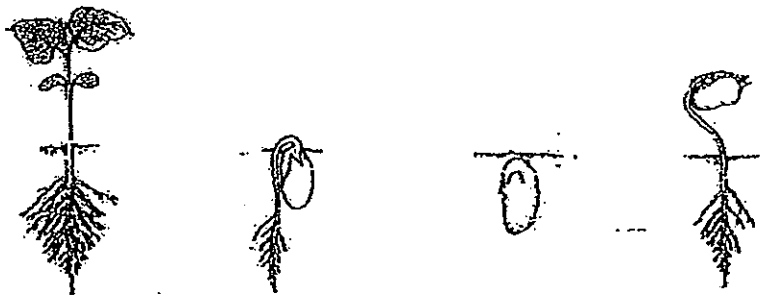
42. The diagrams below show the different stages in the growth of a germinating seed.



(a) Arrange the stages of the growth of the germinated seed in the correct order by writing the letters, A, B, C and D in the appropriate boxes below. [1]

1st stage

(b) At which stage, A, B, C or D, is the seedling able to make its own food? [1]

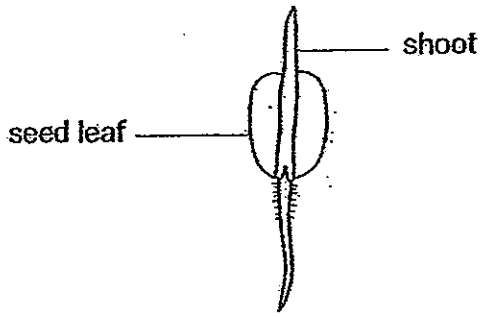
_____

(c) Suggest a reason for your answer in (b). [1]

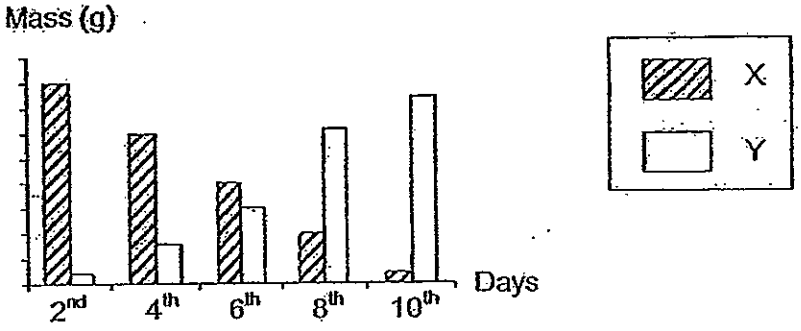
_____

_____

43. Siti carried out an experiment on a seed growing into a seedling as shown below.



The two graphs, X and Y below, show changes in the mass of the seed leaf and the shoot of the seedling during the experiment.



(a) Which graph, X or Y, shows how the mass of the seed leaf changes during the experiment? Explain your answer. [2]

(b) If the seed leaves were removed on day 8, what would happen to the seedling? Suggest a reason for your answer. [2]

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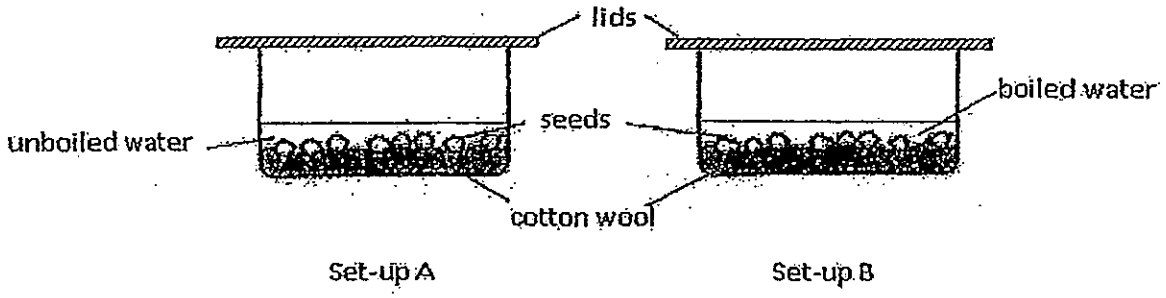
44. Nicolette carried out an experiment on the germination of seeds using two containers, A and B, as shown in the diagram below. In set-up A, she added unboiled water to the seeds while in set-up B, she added boiled water that had been left to cool. She placed both containers in her room.



After two days, Nicolette observed that the seeds in container A germinated while the seeds in container B did not.

(a) What are the 3 conditions necessary for seeds to germinate? [1½]

(i) _____

(ii) _____

(iii) _____

(b) As the seeds in set-up B did not germinate, what can you conclude about the property of the boiled water? [1]

_____

_____

~~ End of Paper ~~

Answer Ke

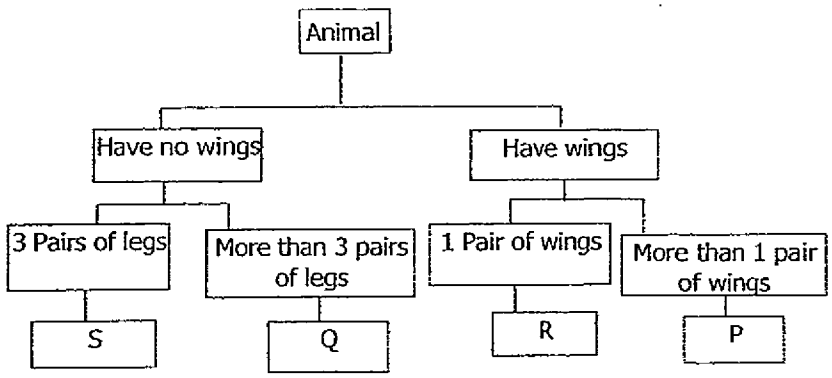
EXAM PAPER 2012
SCHOOL : CHIJ ST NICHOLAS GIRLS' SCHOOL
SUBJECT : PRIMARY 3 - SCIENCE
TERM : SA2

Booklet A

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

31a) Animal Q. It does not have six legs, three body parts and two feelers.

31b)



32a) X, Y, W, Z
32b) X will not have any scratches, showing that it is the hardest. It allows the wearer to see clearly.

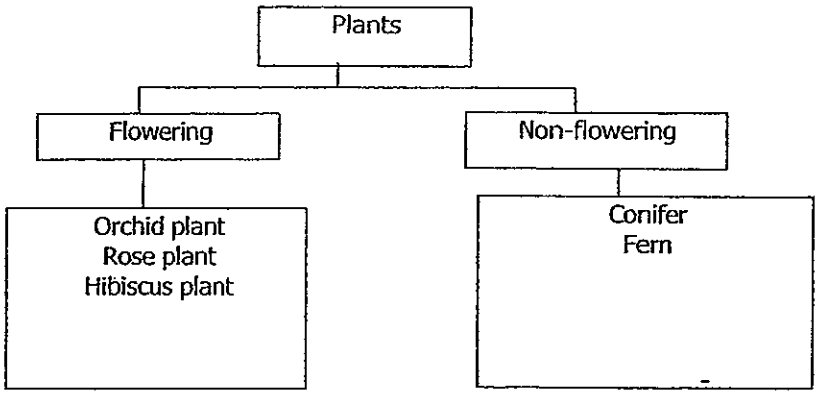
33a) Material C
33b) It takes the greatest number of hits to break the material showing that it is the strongest, thus, a chair made of material C will be able to withstand the weight of a person.

34a) They will die.
34b) Living things need air, food and water to survive, but the mice do not have air and food.

35a) Bat. A bat is a mammal as it has hair as its outer covering but birds have feathers as their outer covering.
35b) A fish has gills but a mammal does not.

EXAM PAPER 2012

36)

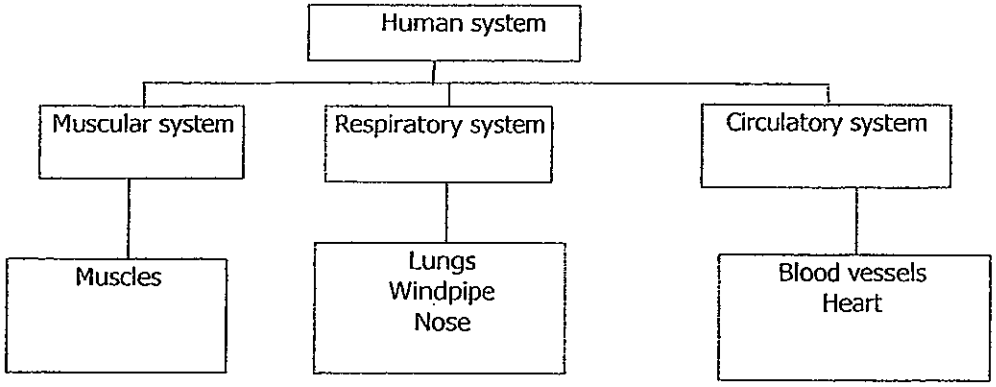


37a) Plant F
37b) If the leaves are removed, there will be no other parts to make food for the plant and the plant will die.
37ci) Leaf vein 37cii) Leaf edge 37ciii) Leaf blade 37civ) Leaf stalk

38a) Skeletal system
38bi) Both give shape
38bii) Both support

39a) T 39b) T 39c) F 39d) T 39e) F 39f) T

40)



41a) To find out if the size of the glass jars will affect the growth of plants.
41b) Plant Y had more air than Plant X, and living things need air to survive, so it could grow healthier.

42a) C, B, D, A
42b) Stage A

42c) It has its leaves so the leaves can absorb sunlight to make food for the plant.
43a) Graph X. The seedling will use the food in the seed leaf so the mass of the seed leaf will decrease.
43b) The seedling will still be able to live. The seedling has grown leaves and can make its own food.
44ai) Air
44aii) Water
44aiii) Warmth
44b) Boiled water has no air.