

Name: \_\_\_\_\_ ( )

Class: Primary 3 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



**Primary 3**  
**Semestral Assessment 1 – 2012**  
**SCIENCE**  
**BOOKLET A**  
**10 May 2012**

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

**30 questions**  
**60 marks**

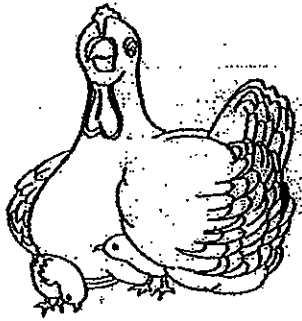
**Do not open this booklet until you are told to do so.**  
**Follow all instructions carefully.**  
**Answer all questions.**

***This booklet consists of 18 printed pages.***

**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 your answer on the Optical Answer Sheet.

1. The diagram below shows a hen and her young.



From the diagram above, which one of the following characteristics of living things is shown?

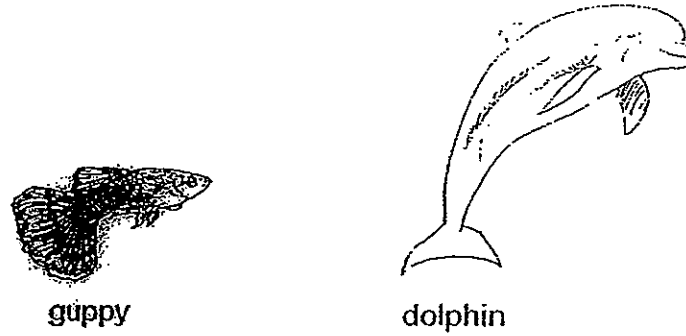
- (1) Living things lay eggs
- (2) Living things can reproduce
- (3) Living things need air, food and water
- (4) Living things can respond to changes around them

2. Which one of the following shows the characteristics of living things?

- A A fire spreading through a jungle.
- B A balloon increasing in size when inflated.
- C A snail hiding inside its shell when touched.
- D The flower of a hibiscus plant closing in the evening.

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

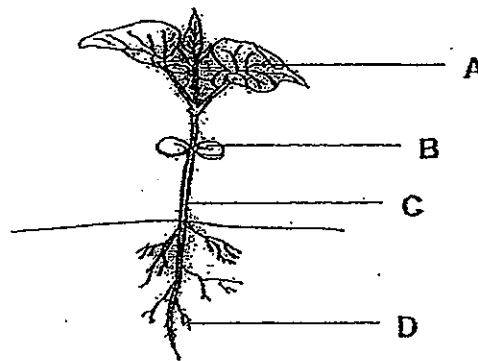
3.



Based on what is observable in the diagram above, how is the guppy similar to the dolphin?

- A Both have tails.
  - B Both breathe through gills.
  - C Both give birth to young alive.
  - D Both their bodies are broader in the middle.
- (1) A and B only  
(2) B and C only  
(3) A and D only  
(4) C and D only

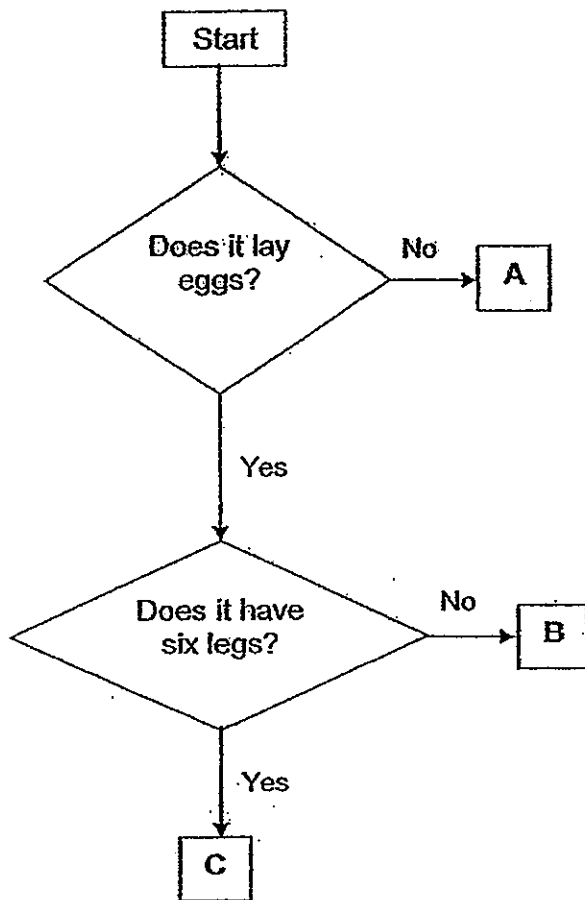
4. The diagram below shows a young plant.



Which part, A, B, C or D, helps the plant to make food?

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

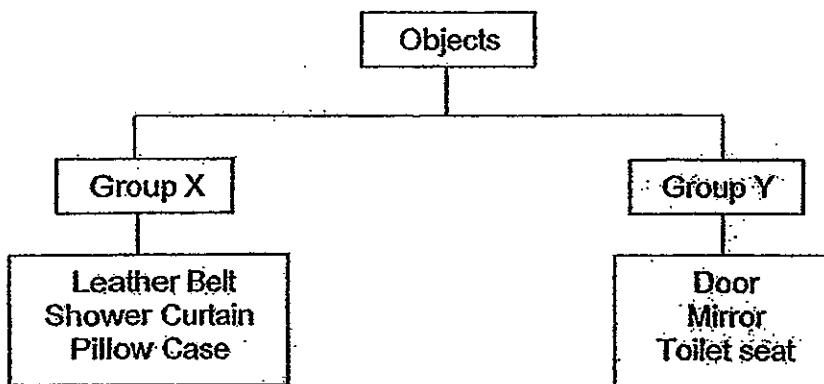
5. Study the flowchart below.



Based on the flowchart above, which one of the following best represents organisms A, B and C?

	A	B	C
(1)	dragonfly	spiny anteater	spider
(2)	rat	spiny anteater	chicken
(3)	rat	spider	dragonfly
(4)	spider	dragonfly	rat

6. Study the classification chart below.



The objects are classified according to \_\_\_\_\_.

- (1) their flexibility
- (2) their transparency
- (3) their ability to float
- (4) the materials they are made of

7. David did some studies on two animals, P and Q. He recorded his observations in the table below. He put a (✓) for the characteristic that was observed for each animal.

Characteristics	Animal P	Animal Q
It has six legs.	✓	✓
It has a pair of wings.	✓	✓
It lays its eggs in water.	✓	

Which one of the following best represents animals P and Q?

	P	Q
(1)	Ant	Spider
(2)	Mosquito	Cockroach
(3)	Dragonfly	Turtle
(4)	Goldfish	Grasshopper

8. Ruth studied two types of organisms as shown below.



Organism A



Organism B

Which one of the following correctly shows the difference between organism A and organism B?

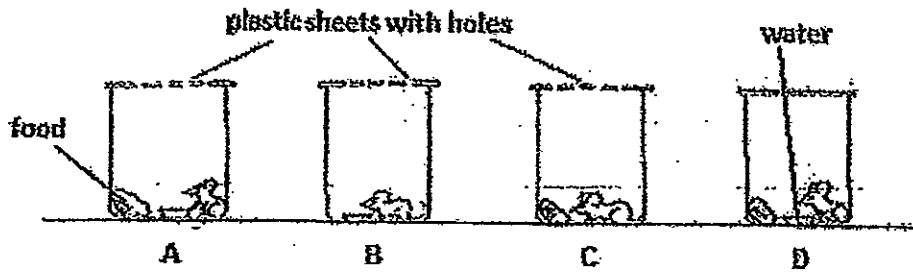
	Organism A	Organism B
(1)	Can move freely	Cannot move freely
(2)	Grows on land only	Grows on land and water
(3)	Does not produce flowers	Produces flowers
(4)	Cannot respond to changes	Can respond to changes

9. Which of the following statements are not true of birds?

- A All birds can fly.
- B All birds have two legs.
- C All birds have fur to keep warm.
- D All birds give birth to young alive.

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

10. Four jars, A, B, C and D, each contained a mouse. Plastic sheets were used to cover the mouths of the jars as shown in the diagram below.



The conditions in each jar were as follows:

	Jar A	Jar B	Jar C	Jar D
Some food	✓		✓	✓
A dish of water	✓	✓		✓
Holes in plastic sheet	✓	✓	✓	

It was observed that after a week, none of the mice was alive. Arrange the jars, A, B, C and D, according to the order in which the mouse died, from the first to the last.

- (1) A, B, C, D
  - (2) C, A, D, B
  - (3) B, D, A, C
  - (4) D, C, B, A
11. Which one of the following statements about bacteria is correct?

- (1) Bacteria are all harmful.
- (2) Bacteria reproduce by spores.
- (3) Bacteria are used to make bread.
- (4) Bacteria can respond to changes.

12. Laura planted a chilli plant over a period of six months. The chilli plant was 10cm tall at the beginning. She recorded the height of the plant in a table shown below.

Number of months	Height of plant (cm)
2	30
4	60
6	80

Based on the table above, Laura can conclude that the chilli plant has \_\_\_\_\_.

- (1) died
  - (2) grown
  - (3) responded
  - (4) reproduced
13. Study the classification table below.

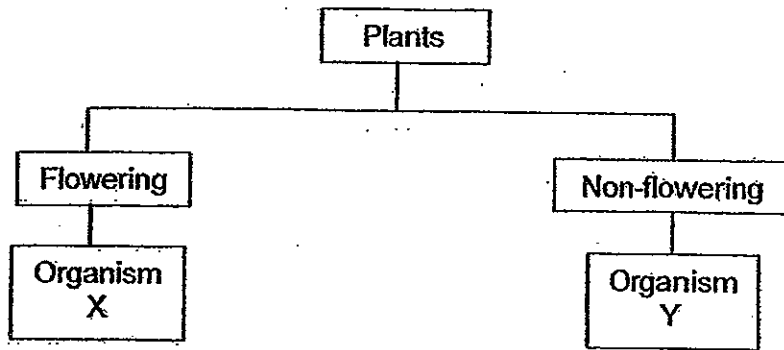
Flowering Plants	Non-flowering Plants
Bougainvillea	Bracket fungus
Rose	Dragon scale fern

Which organism has been placed in the wrong group?

- (1) Rose
- (2) Bougainvillea
- (3) Bracket fungus
- (4) Dragon scale fern



14. Study the classification chart below.



Which of the following best represents organisms X and Y?

	Organism X	Organism Y
(1)	Moss	Orchid
(2)	Water lily	Pong pong
(3)	Hibiscus	Bird's nest fern
(4)	Staghorn fern	Toadstool

15. Which of the following can only be seen under a microscope?

- A Fungi
- B Yeast cell
- C Moss
- D Bacteria

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

16. Which of the following is/are characteristic(s) of all living things?

- A They all need food to stay alive.
- B They can make food by themselves.
- C They depend on other living things for food.
- D They move from one place to another to look for food.

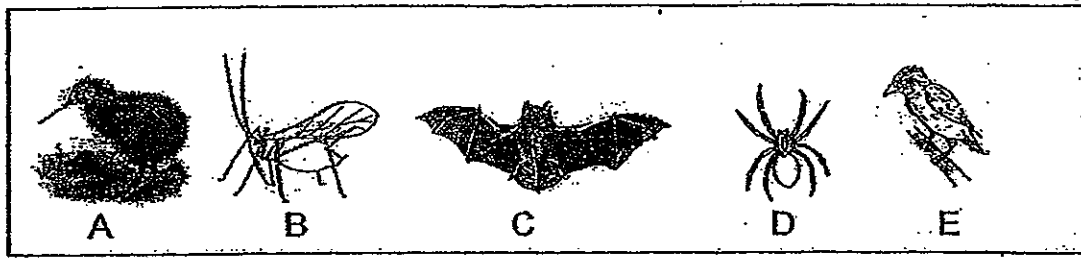
- (1) A only
- (2) C only
- (3) A and C only
- (4) B, C and D only

17. Which of the following are examples of living things?

- A A container of soil
- B A container of bread crumbs
- C A container of dried mushroom
- D A container of uncooked beans

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

18. The diagram below shows 5 organisms not drawn to scale.



Which one of the following classifications is wrong?

(1)

Can fly	Cannot fly
A, B, C, E	D

(2)

Lay eggs	Do not lay eggs
A, B, D, E	C

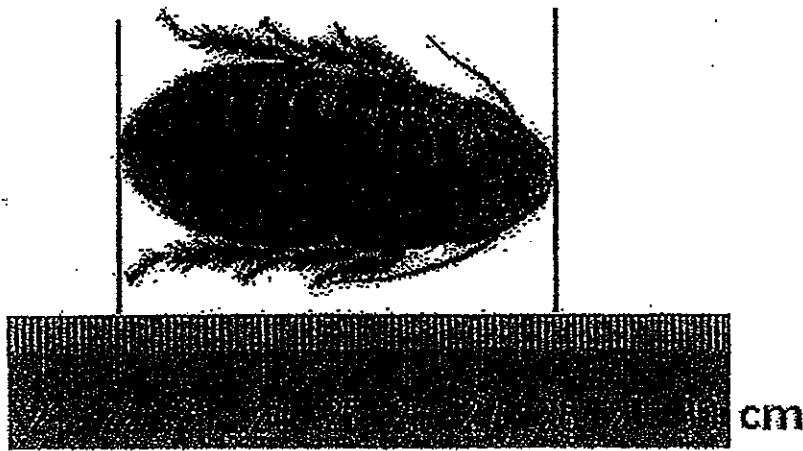
(3)

Have feathers	Do not have feathers
A, E	B, C, D

(4)

Have six legs	Do not have six legs
B	A, C, D, E

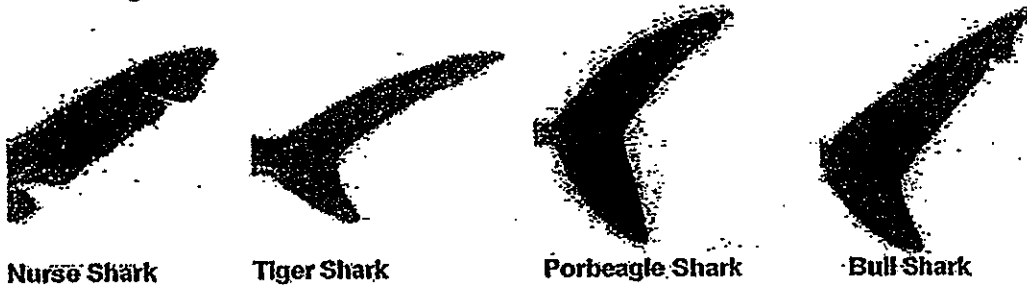
19. The diagram below shows how the length of a cockroach is measured.



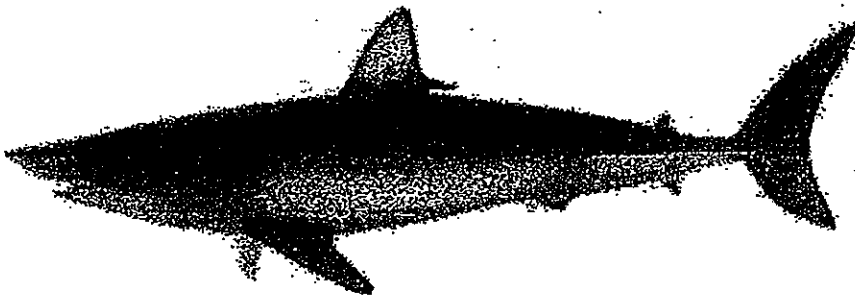
Based on the diagram above, what is the length of the cockroach?

- (1) 6 cm
- (2) 7 cm
- (3) 22 cm
- (4) 28 cm

20. The diagram below shows the tail fins of 4 different types of sharks.

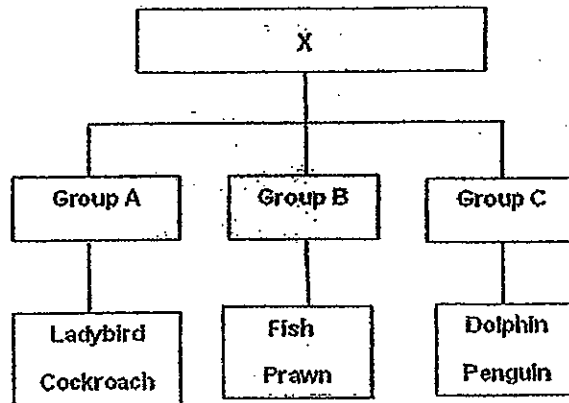


Based on the shape of the tail fin, identify which specie of shark the following belongs to.



- (1) Nurse Shark
- (2) Tiger Shark
- (3) Porbeagle Shark
- (4) Bull Shark

21. Based on the classification chart below, what could heading "X" be?



- (1) Body covering
- (2) Number of legs
- (3) Method of breathing
- (4) Method of reproduction

22. Which one of the following objects is the most flexible and does not break easily?

(1)



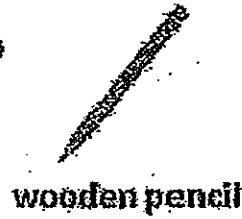
(2)



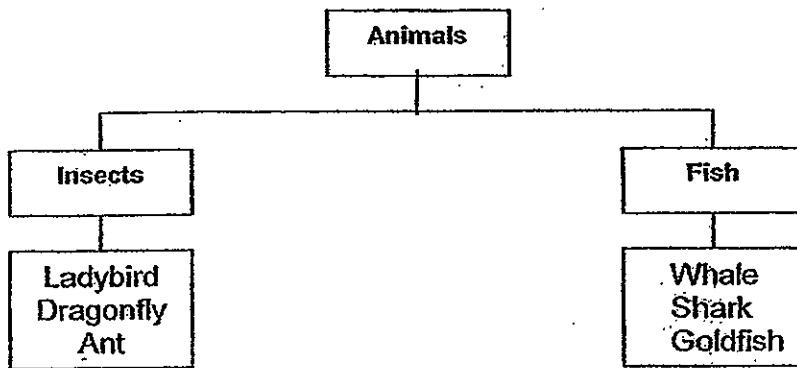
(3)



(4)



23. The classification chart below shows how two groups of animals are classified.



In the classification chart above, which one of the following organisms is wrongly classified?

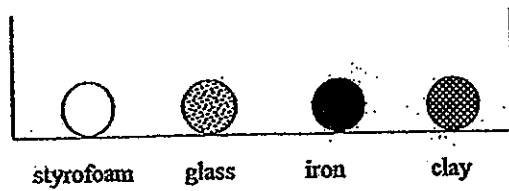
(1) Ladybird

(2) Dragonfly

(3) Whale

(4) Goldfish

24. The diagram below shows 4 balls made of different materials. The balls were left in a trough as shown in the diagram below and the trough was then half-filled with water.



Which one of the following shows what can be observed when water is poured into the trough?

(1)



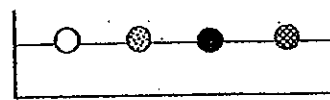
(2)



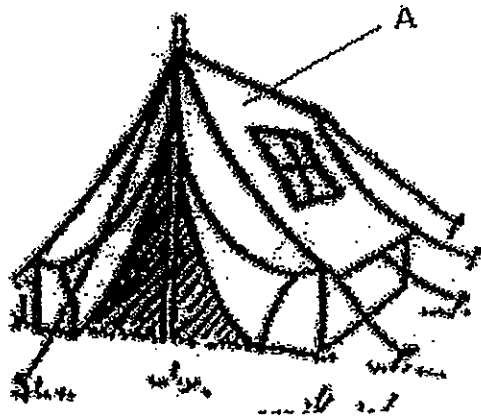
(3)



(4)



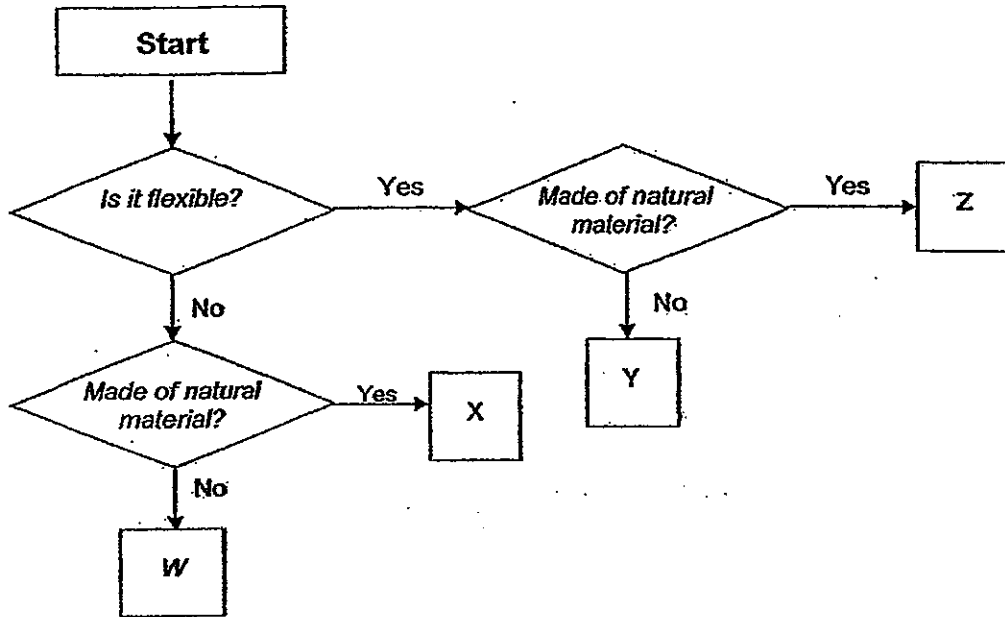
25. John wants to find a suitable material for making part A of the tent below.



The table below shows the properties of 4 different materials. A tick (✓) indicates the property possessed by the material. Which one of the following materials would be most suitable?

	Materials	Flexible	Waterproof	Strong
(1)	W	✓	✓	✓
(2)	X	✓		✓
(3)	Y		✓	
(4)	Z	✓	✓	

26. The flowchart below shows how four objects W, X, Y and Z are grouped according to their properties.

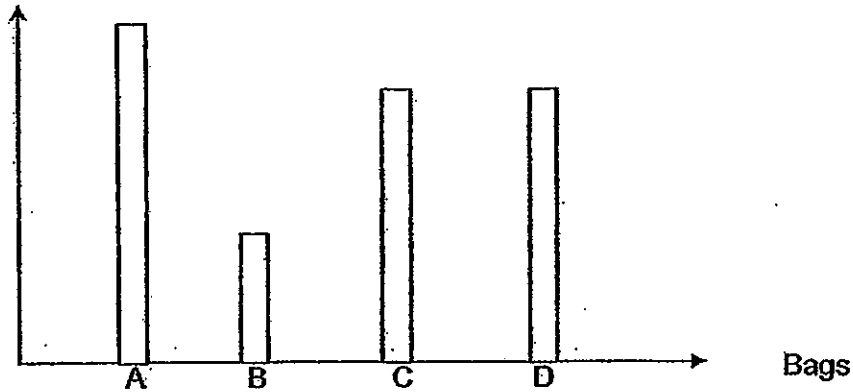


Based on the flowchart above, which one of the following best represents the four objects?

	W	X	Y	Z
(1)	Computer keyboard	Wooden chopsticks	Plastic wrapper	Cotton shirt
(2)	Steel fork	Gold ring	Plastic wrapper	Rubberband
(3)	Pencil lead	Styrofoam plate	Silk blouse	Shower curtains
(4)	Styrofoam plate	Bamboo pole	Rubber hose	Leather belt

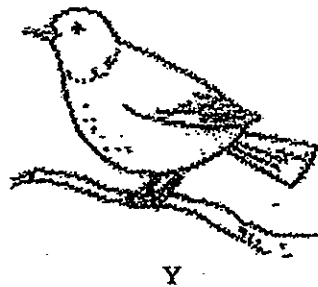
27. Peter wanted to test the strength of four different types of paper bags. He hung them from a pole and added weights to the bags until they tore. He then recorded the maximum weight each bag could hold in the graph below.

Weights(g)



Based on the above observation, which one of the following statements is true?

- (1) Bag A is the most flexible.  
 (2) Bag C can carry a heavier load than Bag D.  
 (3) Bag B is not suitable for carrying light loads.  
 (4) The total load that bags C and D can hold is more than that of bag A.
28. The diagram below shows two birds.

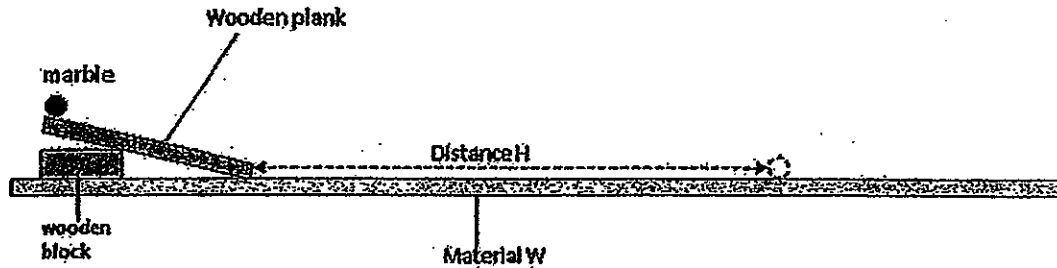


Based on what is observable in the above diagram, what is the similarity and difference between the two birds?

	Similarity	Difference
(1)	Both have long beaks	X has a long tail, Y does not
(2)	Both have wings	X feeds on fish, Y feeds on insects
(3)	Both live on trees	X has a long beak, Y does not
(4)	Both have beaks	X has a long tail, Y does not



29. Peter put a piece of material W on the floor. He then placed a wooden plank over a wooden block on top of the material. A marble is then placed on top of this wooden plank and released. When the marble had come to rest, the distance (H) travelled by the marble over the material is measured as shown in the diagram below.



Peter then repeated the experiment again with two different types of materials X and Y. The results of his experiment are shown in the table below.

Types of materials	Distance H (1 <sup>st</sup> try) (cm)	Distance H (2 <sup>nd</sup> try) (cm)	Distance H (3 <sup>rd</sup> try) (cm)
W	5	6	5
X	12	10	13
Y	7	8	8

What could Peter conclude from his observation?

- (1) Material X is the roughest
- (2) Material W is the smoothest
- (3) Material Y is smoother than Material X
- (4) Material X is smoother than Material W

30. 4 pieces of materials E, F, G and H were used to rub against each other, two at a time, and they were observed for scratch marks. The observations were recorded in the table below.

Materials Used	Material with scratch marks
E and F	E
G and H	H
E and G	G
F and G	G

Based on the above observation, which material is the hardest?

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

**\*\*End of Section A\*\***

Name : \_\_\_\_\_ ( )

Class : Primary 3 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



**Primary 3**  
**Semestral Assessment 1 – 2012**  
**SCIENCE**  
**BOOKLET B**  
**10 May 2012**

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.

Booklet A	60
Booklet B	40
Total	100

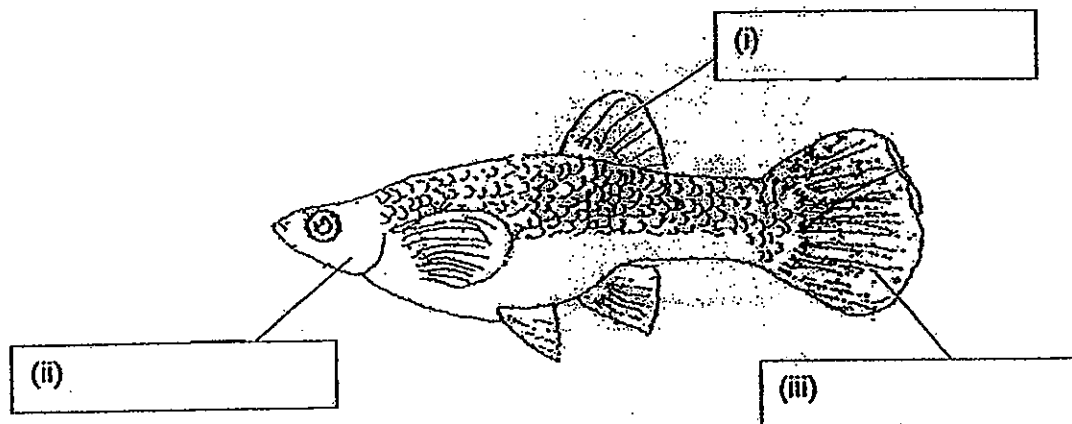
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Parent's Signature/Date

**Section B : (40 marks)**

**For question 31 to 44, write your answer in this booklet.**

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

31. The diagram below shows a guppy.



(a) Label the parts (i), (ii) and (iii) in the diagram above. [1½]

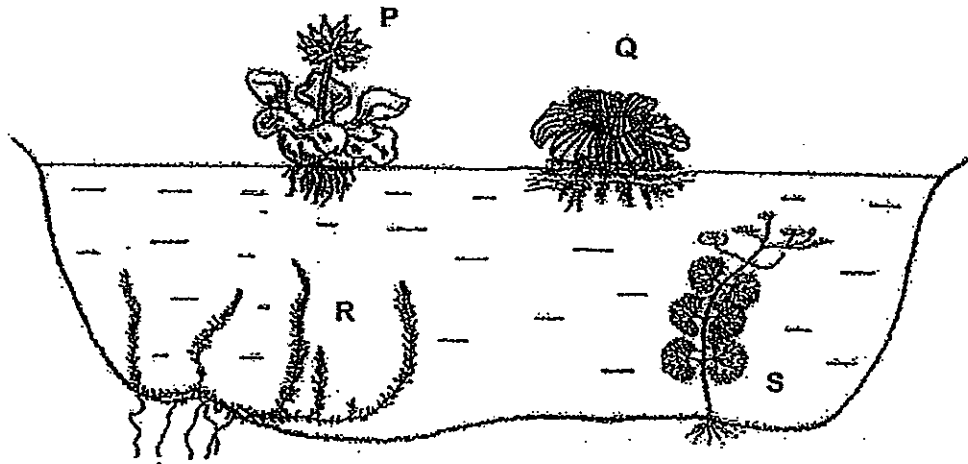
(b) What is the function of part (ii)? [1]

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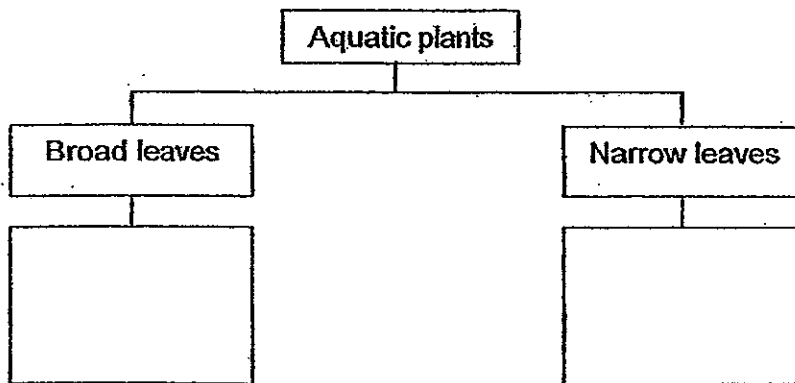
(c) How does the guppy reproduce? [½]

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32. There are four aquatic plants, P, Q, R and S, found growing in a pond as shown in the diagram below.



Martha wanted to classify the four plants in the classification chart shown below.



- (a) Complete the classification chart above by writing P, Q, R and S in the correct boxes. [1]

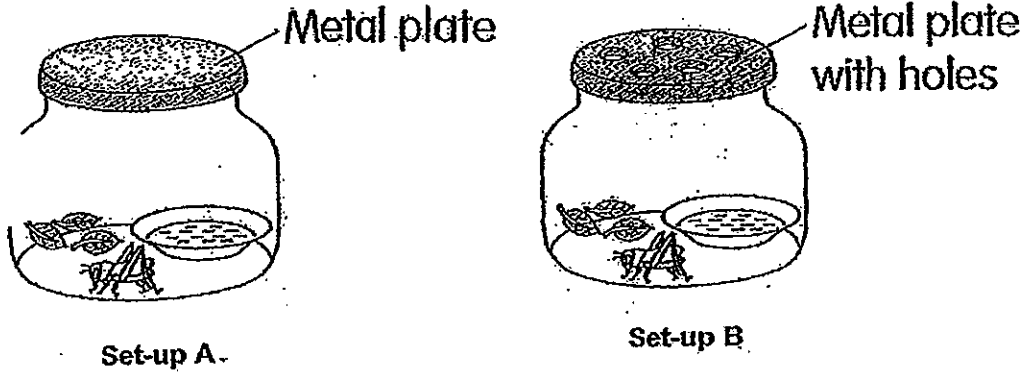
- (b) When the water of the pond became muddy because of a period of heavy rain, it was noticed that both plant R and S began to die. Why is this so? [2]

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33. Pamela set up an experiment as shown below. She observed that the cricket in set-up A died at the end of the day.



(a) What is the aim of her experiment?

[1]

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(b) If Pamela had set up her experiment with 5 crickets in each set-up, what would be the difference in the results observed? Why?

[1]

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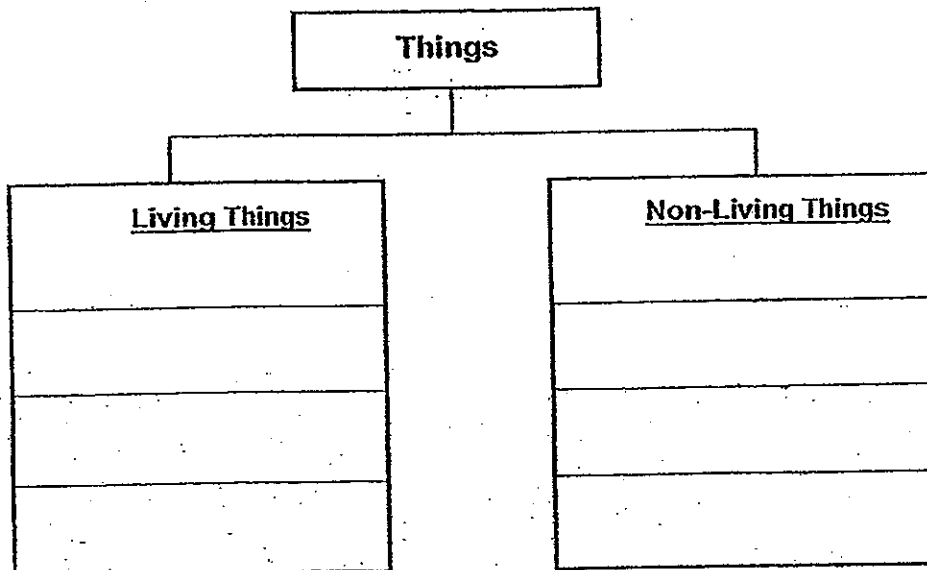


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34. Classify the following things in the chart below.

[2]

Air	Gems	Popcorn	Water
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35. Harry wanted to investigate the conditions that affect the growth of mould on bread. He set up an experiment with 4 pieces of bread as shown below.

	Bread A	Bread B	Bread C	Bread D
Location it was placed	Dining table	Dining table	Freezer	Freezer
Condition of bread	Not toasted	Toasted	Not toasted	Toasted

After a week, he observed mould growing on two of the pieces of bread as shown in the diagram below.



Observation 1



Observation 2

- (a) Based on the table above, which bread, A, B, C or D is likely to have led to observations 1 and 2 respectively? [1]

Observation 1: Bread \_\_\_\_\_

Observation 2: Bread \_\_\_\_\_

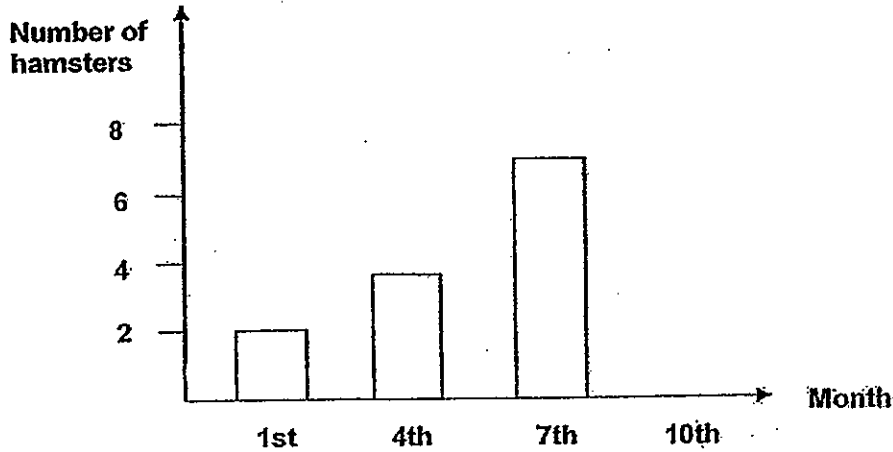
- (b) From his experiment, name two conditions necessary for mould to grow well. [1]

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36. 2 hamsters were left in a tank over a period of time. The bar graph below shows the number of hamsters observed in the tank at 3-months interval.



- (a) What do you notice about the number of hamsters over the 7 months. [1]

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- (b) Give a reason for your answer in (a). [1]

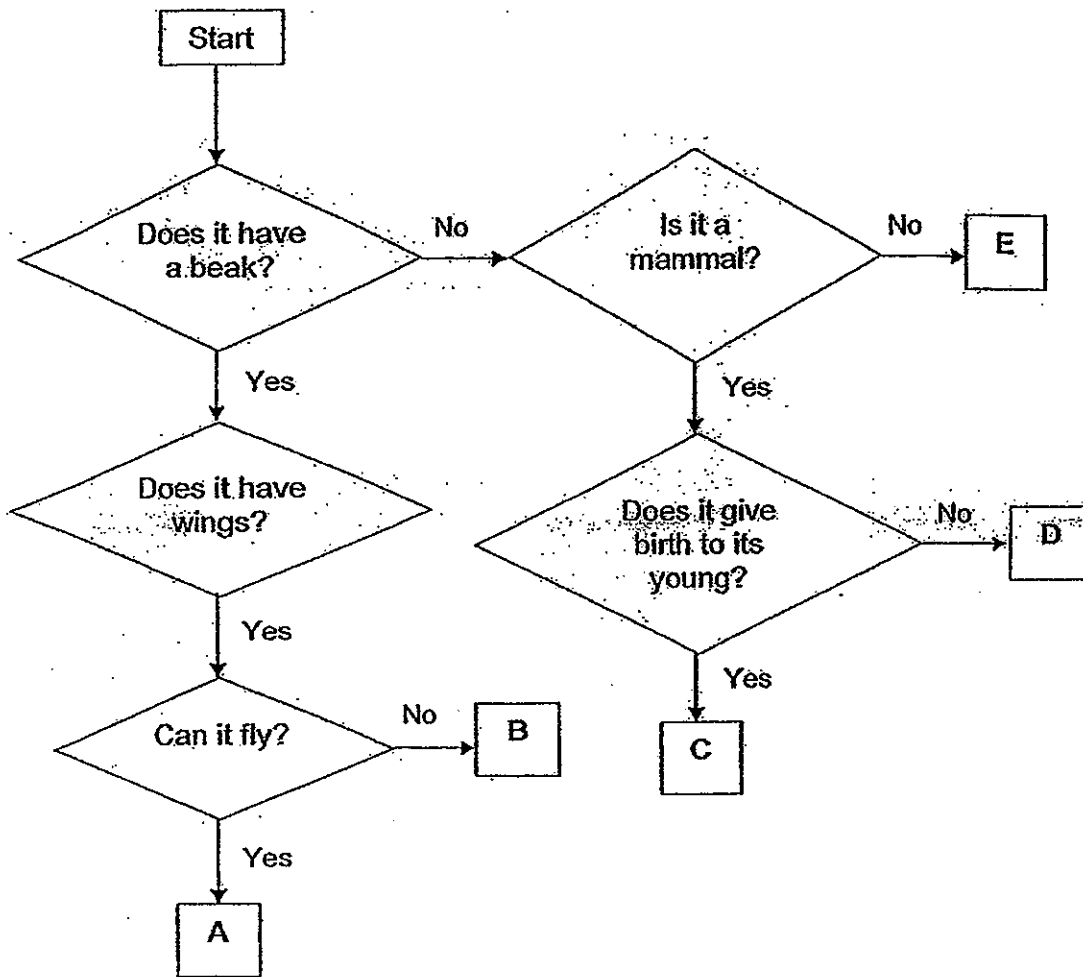
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- (c) Between the 7<sup>th</sup> month and the 10<sup>th</sup> month, 4 hamsters died and 2 were born. In the graph above, draw the bar to represent the number of hamsters recorded in the 10<sup>th</sup> month. [1]



37. Study the flowchart below.



(a) Give an example of organisms A and B. [2]

Organism A: \_\_\_\_\_

Organism B: \_\_\_\_\_

(b) Based on the flowchart above, state one similarity between organisms C and E. [1]

\_\_\_\_\_


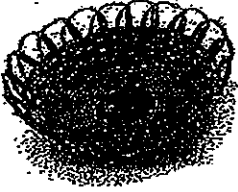






\_\_\_\_\_

(c) Which organism, A, B, C, D or E, is most likely to be a bat? [1]

\_\_\_\_\_

38. The objects below are classified according to the materials used to make them.

(a) Identify the correct materials used by writing your answers in the boxes provided. [2]

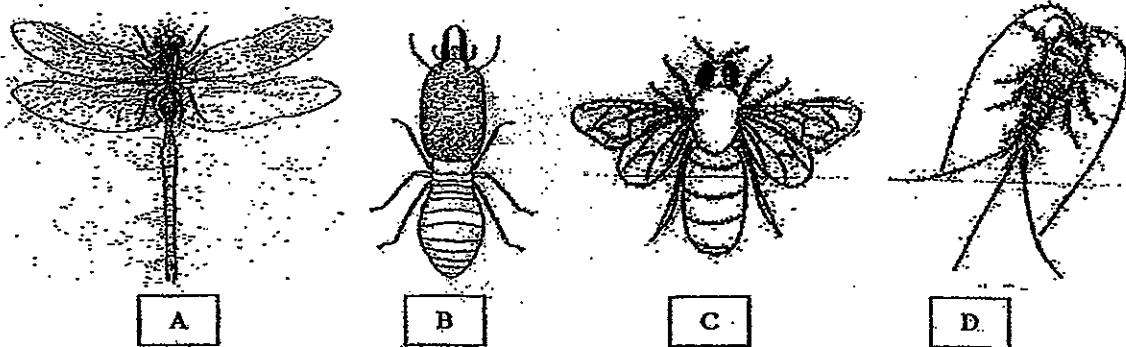
 ice cube maker	 bamboo basket	 window grills	 scarves
 student card	 Part x of violin	 staples	 handkerchief

(b) Identify two properties of the material that makes it suitable for making scarves. [1]

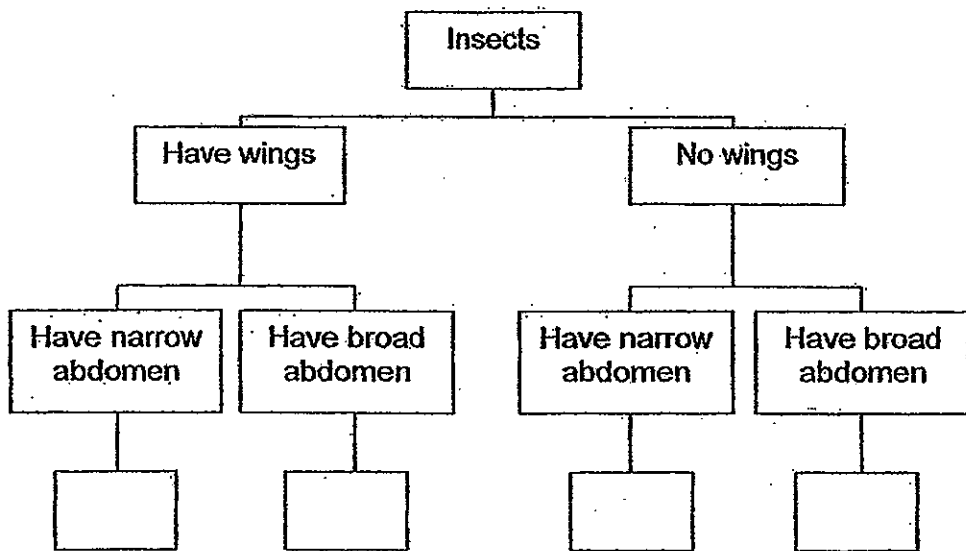
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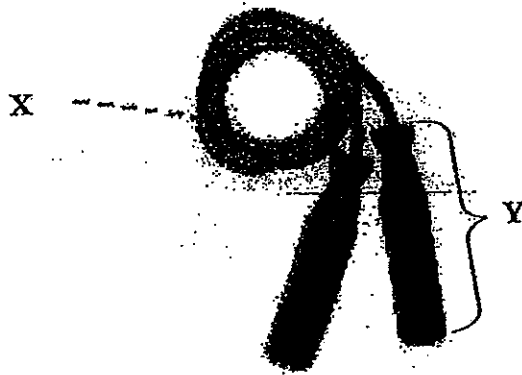
39. Study the diagrams of the 4 insects below carefully.



Complete the chart below by writing the letters A, B, C and D in the correct boxes to show how these 4 insects should be classified. [2]



40. The diagram below shows a skipping rope.



(a) If parts X and Y are made of the same material, what material can this be? [1]

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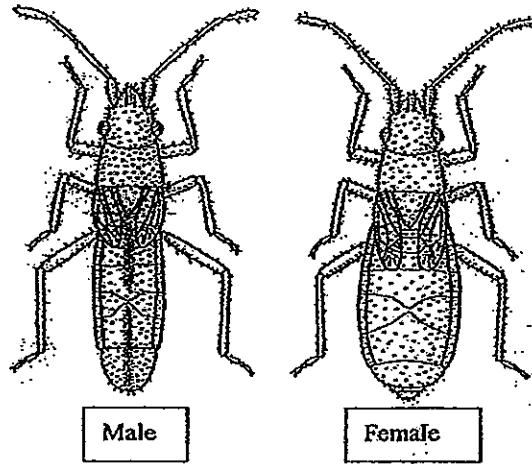
(b) What is the property of the material that makes it suitable for making part X? [1]

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(c) If iron were used to make part Y instead of the material you have chosen, what would be two differences in the skipping rope you would notice? [1]

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41. The diagram shows the male and female of a specie of insect.



(a) Based on the diagram above, the wings of the male insect is smaller than that of the female. State two other differences between the male and the female. [2]

Difference 1: \_\_\_\_\_

\_\_\_\_\_

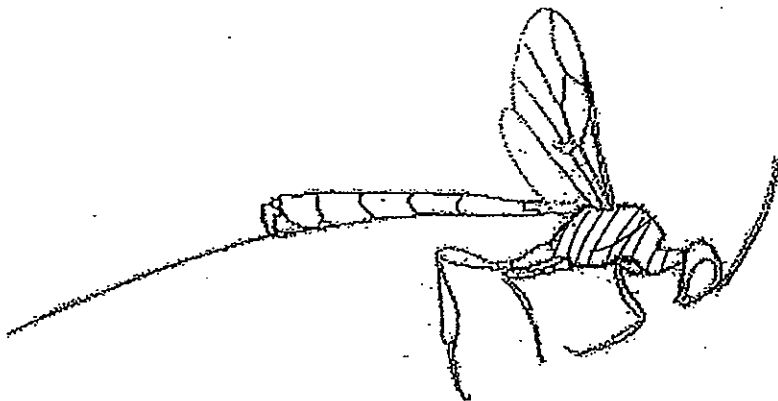
Difference 2 : \_\_\_\_\_

\_\_\_\_\_

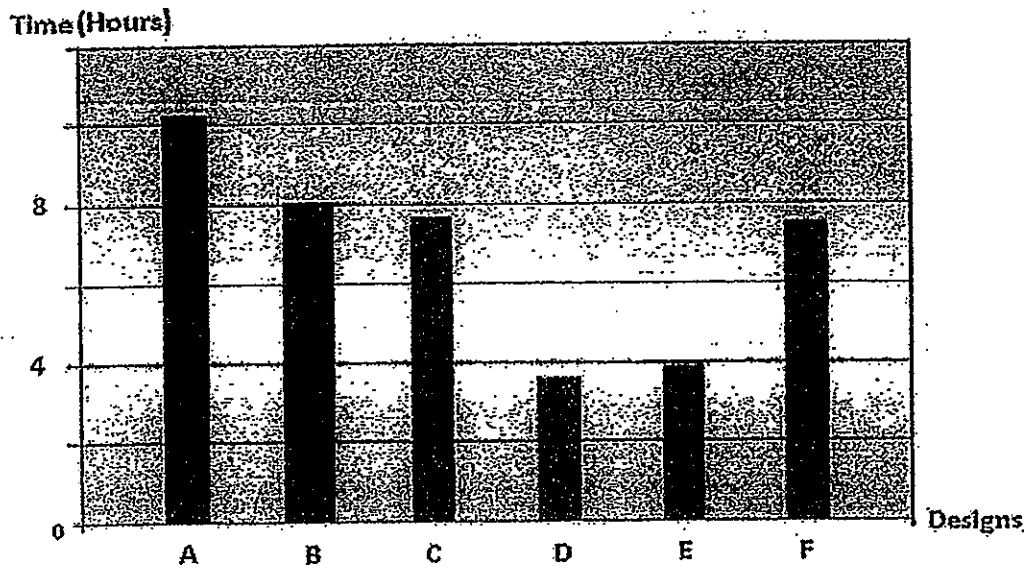
(b) An insect's body can be divided into 3 segments. In the side view of an insect below, identify the three segments by doing the following

- (i) shade the entire thorax of the insect
- (ii) draw lines to point to the head and the abdomen
- (iii) label the head and the abdomen clearly

[1½]

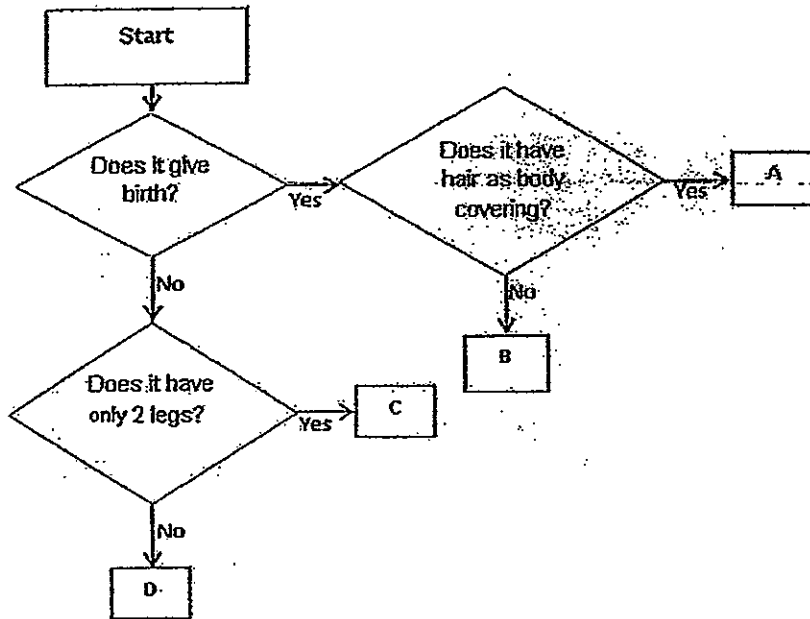


42. Tom folded a few paper boats of designs A, B, C, D, E and F. He left them floating in a basin of water and observed how long it took before they started sinking. He plotted his observations in the graph below for each design.



- (a) Based on the graph above, which designs could stay afloat for longer than 7 hours? [1]
- 
- (b) Which design could stay afloat for twice as long as design E? [1]
- 
- (c) If Tom wanted to find out which design could stay afloat for more than 4 hours, what can he conclude from this experiment? [1]
-

43. Study the flowchart below carefully.



(a) State the difference between organisms A and D? [1]

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(b) State the similarity between organisms C and D? [1]

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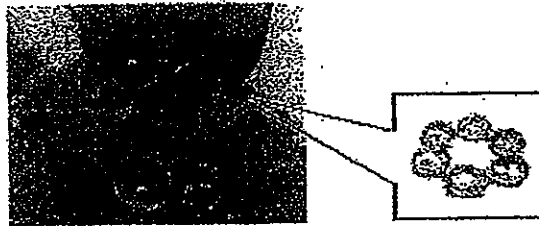
(c) In which group A, B, C or D should the following organisms belong to? [1½]

Whale: \_\_\_\_\_

Moth: \_\_\_\_\_

Penguin: \_\_\_\_\_

44. Albert wants to find out which material is suitable for making a teething toy for little children as shown below (Note: A teething toy is one which a baby can bite on while playing with it).



He tested 3 different materials and recorded his observations as follows

Materials	Waterproof	Hard/Soft	Buoyancy (Ability to float)	Flexibility
A	No	Soft	No	Yes
B	Yes	Hard	No	No
C	Yes	Soft	Yes	Yes

- (a) Based on his observations, he decided to use material C for the toy. Explain why material C is better than material B for making the toy. [1]

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- (b) State the main reason why material A is not suitable to be used to make the toy. [1]

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- (c) If Albert wanted to make a toy slide for children for outdoor use as shown in the diagram below, which material (A, B or C) would be the most suitable? Why? [1]




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**\*\*End of Section B\*\***



# ANSWER SHEET

**EXAM PAPER 2012**

**SCHOOL : CHIJ ST NICHOLAS GIRLS' SCHOOL**

**SUBJECT : PRIMARY 3 - SCIENCE**

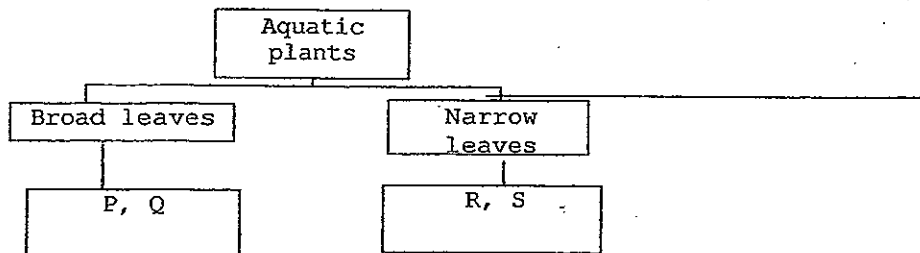
**TERM : SA1**

**Booklet A**

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

- 31ai) Fin    31aii) Gill cover    31aiii) Tail fin  
 31b) To protect the gills of the guppy.  
 31c) It reproduce by giving birth to its young alive.

32a)

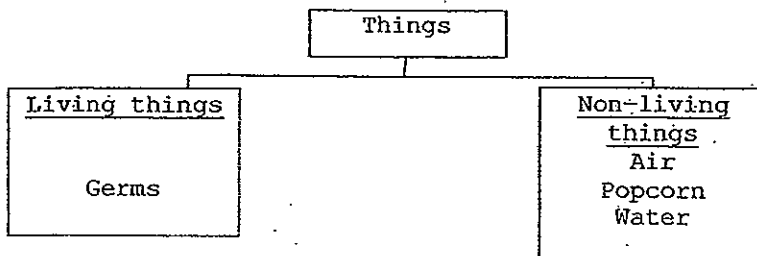


32b) Sunlight could not get to plant R and S to make their own food as the mud blocked them.

33a) To find out if crickets need air to survive.

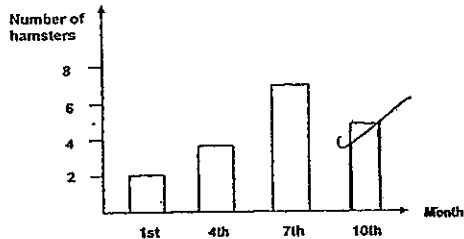
33b) The crickets in set-up A will die faster because there is less air for each cricket.

34)



35a) Observation 1: Bread A  
 Observation 2 : Bread B  
 35b) Moisture and warmth

36)



36a) The number of hamsters increased from 2 to 7.  
 36b) The hamsters reproduced so the number of hamsters increased.

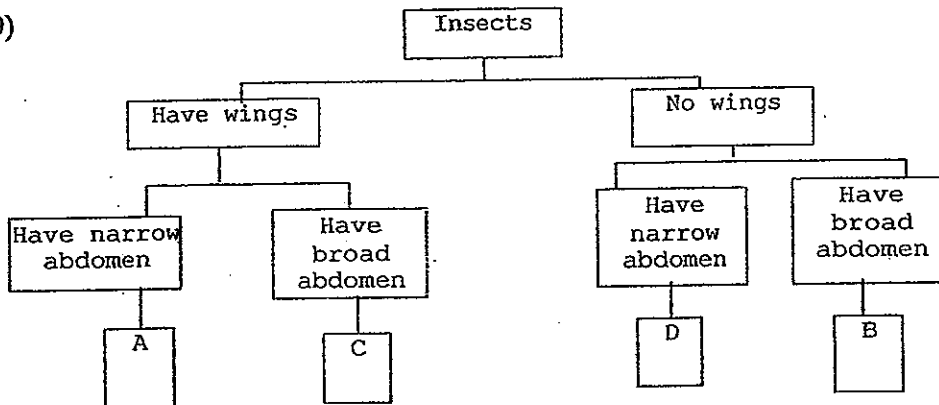
37a) Organism A: Sparrow  
 Organism B: Emu  
 37b) Both do not have a beak.  
 37c) Organism C

38a)



38b) Flexible and soft.

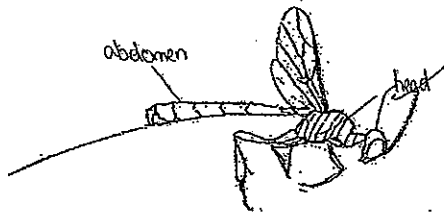
39)



40a) Rubber  
 40b) Flexible  
 40c) Iron is a good conductor of heat and you will get burnt if part Y touches something hot. The skipping rope with part Y made of iron will be heavier than the other skipping rope.

41a) Difference 1: The female's abdomen is broad but the male's abdomen is narrow.  
 Difference 2: The male has a black line on its abdomen but the female does not.

41b)



42a) Design A, B, C and F.

42b) Design B

42c) Design A, B, C and F could stay afloat for more than 4 hours but design D and E could not.

43a) A gives birth but D does not.

43b) Both do not give birth.

43c) Whale: A

Moth: D

Penguin: C

44a) Material C is soft and will not hurt the baby when it is bitten.

44b) It is not waterproof and the baby's saliva will be absorbed in.

44c) He should use material B as it is waterproof, hard and not flexible.

