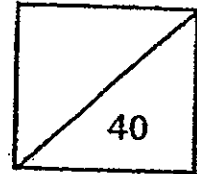




Rosyth School  
Topical Test 2012  
SCIENCE  
Primary 4



Name: \_\_\_\_\_

Total  
Marks:

Class: Pr 4 \_\_\_\_\_

Register No. \_\_\_\_\_

Duration: 1 h

Date: 29 February 2012

Parent's Signature: \_\_\_\_\_

**Instructions to Pupils:**

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 Parts, Part I and Part II.
4. For questions 1 to 10, write your answers in the brackets given in Part I.
5. For questions 11 to 17, write your answers in the spaces given in Part II.

	Maximum	Marks Obtained
Part I	20 marks	
Part II	20 marks	
Total	40 marks	

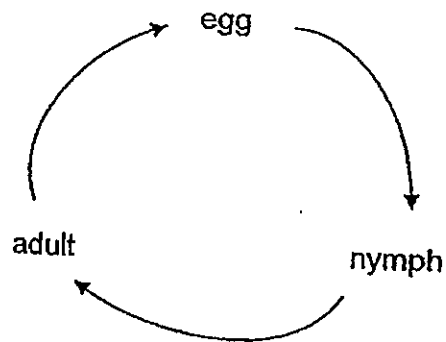
\* This booklet consists of 13 pages.

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**Part I (20 MARKS)**

For questions 1 to 10, four options are given. Make your choice (1, 2, 3 or 4) and write your answer in the bracket provided.

1. Study the life cycle as shown below.



Which of the following insects have a life cycle as shown above?

- A: housefly
- B: mosquito
- C: dragonfly
- D: cockroach

(1) A and B only

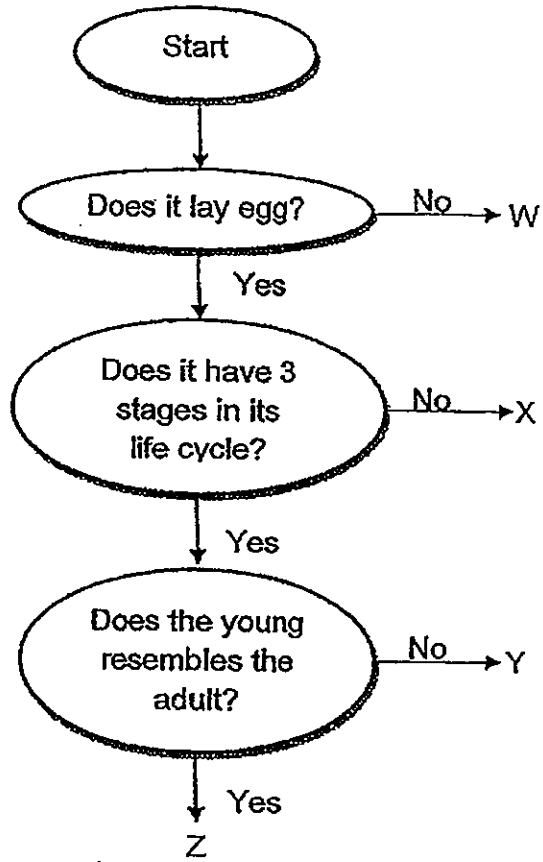
(2) A and C only

(3) B and C only

(4) C and D only

( )

2. Study the flowchart below.

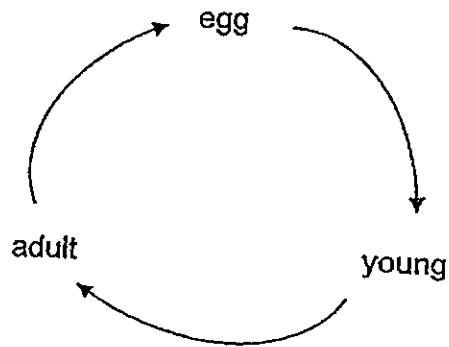


Which one of the following is likely to be a frog?

- (1) W
- (2) X
- (3) Y
- (4) Z

( )

3. Study the life cycle as shown below.

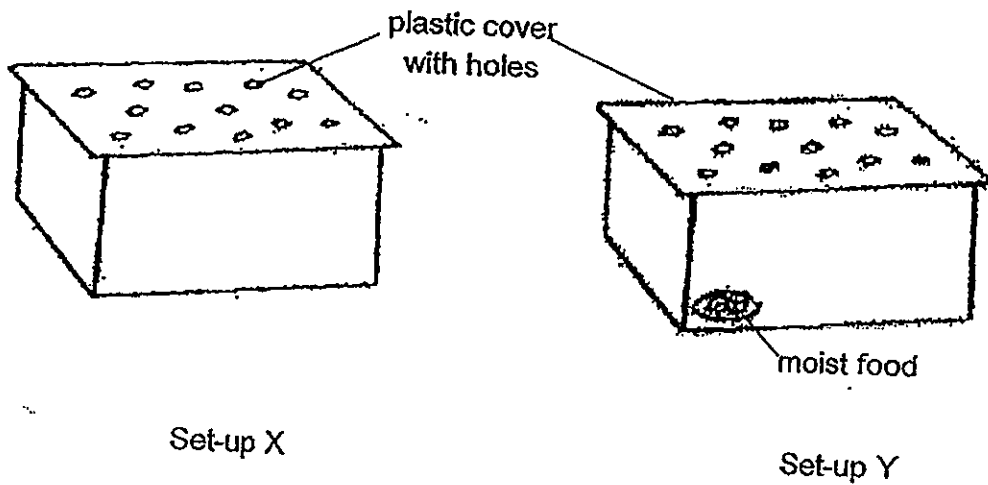


Which groups of animals have a life cycle as shown above?

- (1) birds and fish only
- (2) insects and mammals only
- (3) birds, fish and mammals only
- (4) birds, fish, insects and mammals

( )

4. Wei Liang prepared two set-ups X and Y as shown below.



Set-up X

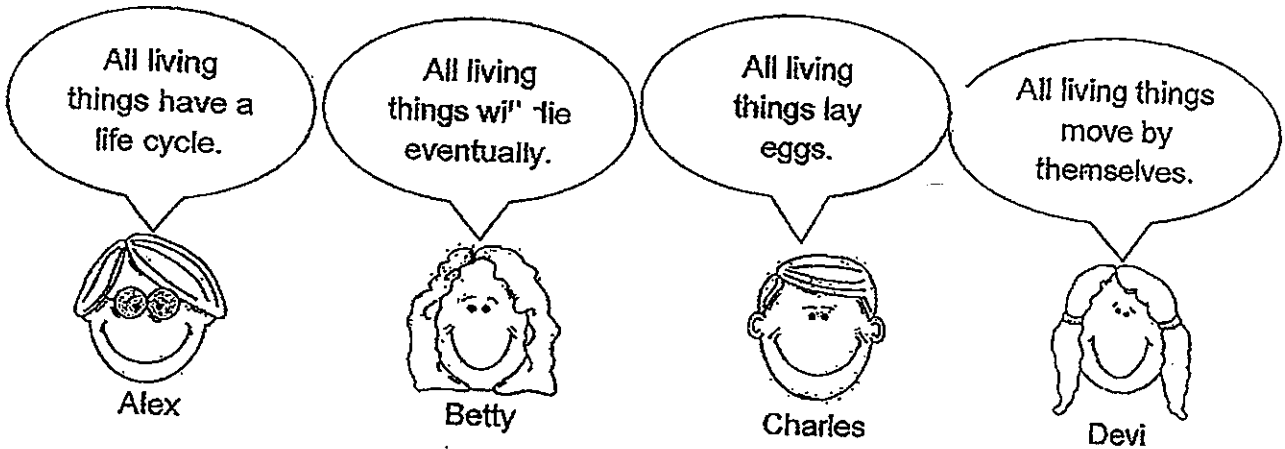
Set-up Y

Which stage(s) in a life cycle could survive in both set-ups X and Y?

- (1) egg only
- (2) larva only
- (3) egg and pupa only
- (4) nymph and pupa only

( )

5. Alex, Betty, Charles and Devi had a discussion about the similarities of all living things.



Which of them made the correct statements?

- (1) Alex and Betty only
- (2) Charles and Devi only
- (3) Alex, Betty and Devi only
- (4) Alex, Betty, Charles and Devi

( )

6. Paul was experimenting to find out how a variable affects the rate of growth of a young plant to become an adult plant. He set up the experiment as shown in the table below.

Variable	Kept the same	Changed	Measured
Amount of water	✓		
Amount of sunlight		✓	
Age of the young plant	✓		
Amount of time taken to become an adult plant			✓

Which variable was Paul experimenting?

- (1) Amount of water
- (2) Amount of sunlight
- (3) Age of the young plant
- (4) Amount of time taken to become an adult plant

( )

7. Chong Ming carried out an experiment to find out how the amount of water affects the growth of balsam plants.

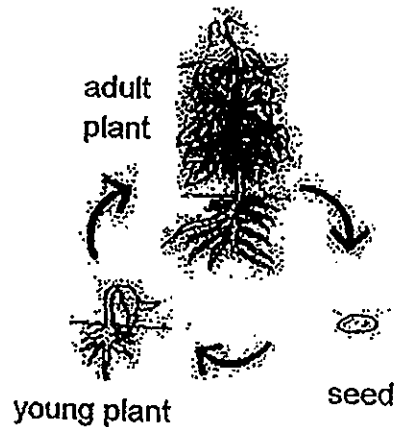
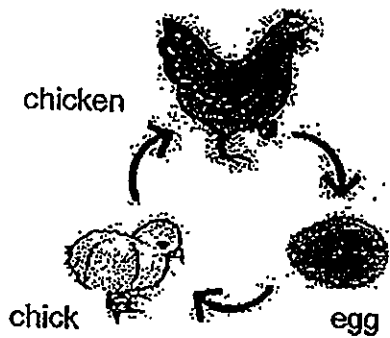
Which of the following variable(s) should be kept the same to ensure a fair test?

- A: type of soil
- B: size of pot
- C: amount of water
- D: where the pot is placed

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

( )

8. Refer to the two life cycles as shown below.



What is/are the similarities between the two cycles?

- A: Both life cycles have 3 stages.
- B: Both young resemble the adult.
- C: Both young undergo the process of moulting.
- D: Both life cycles takes the same time to develop into an adult.

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

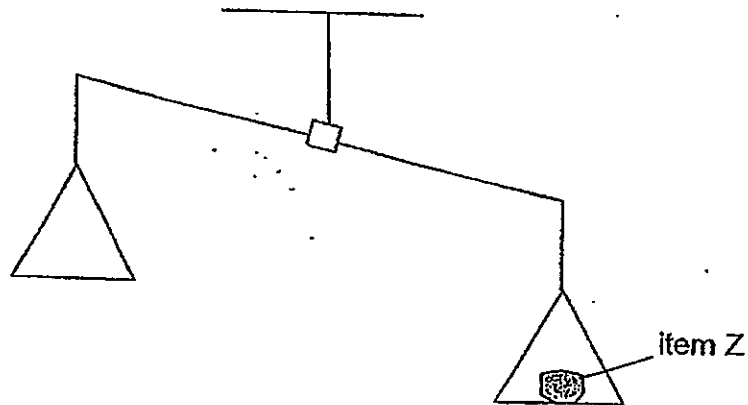
( )

9. Which of the following does not have mass?

- (1) rain
- (2) heat
- (3) feather
- (4) tissue paper

( )

10. Ahmad placed item Z on a beam balance as shown below.



Based on the above observation, what can be inferred about item Z?

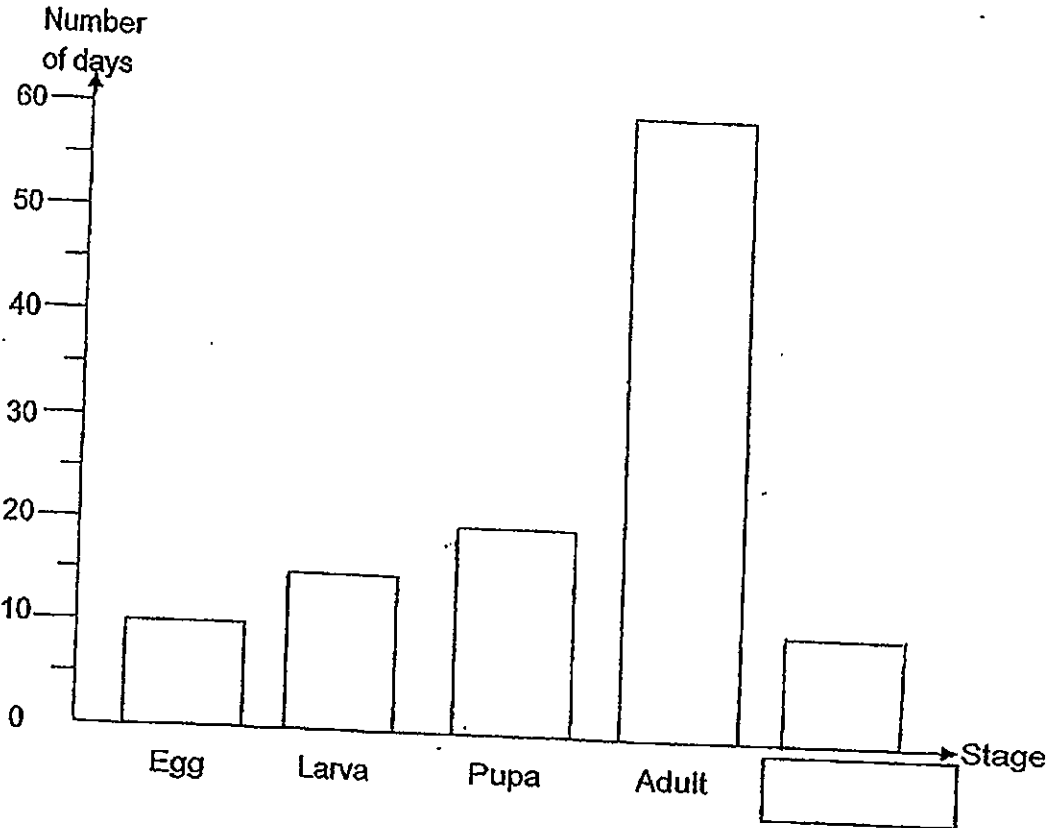
- (1) It has mass.
- (2) It is a solid.
- (3) It takes up space.
- (4) It is a non-living thing.

( )

**Part II (20 MARKS)**

For questions 11 to 17, write your answers in the space provided.

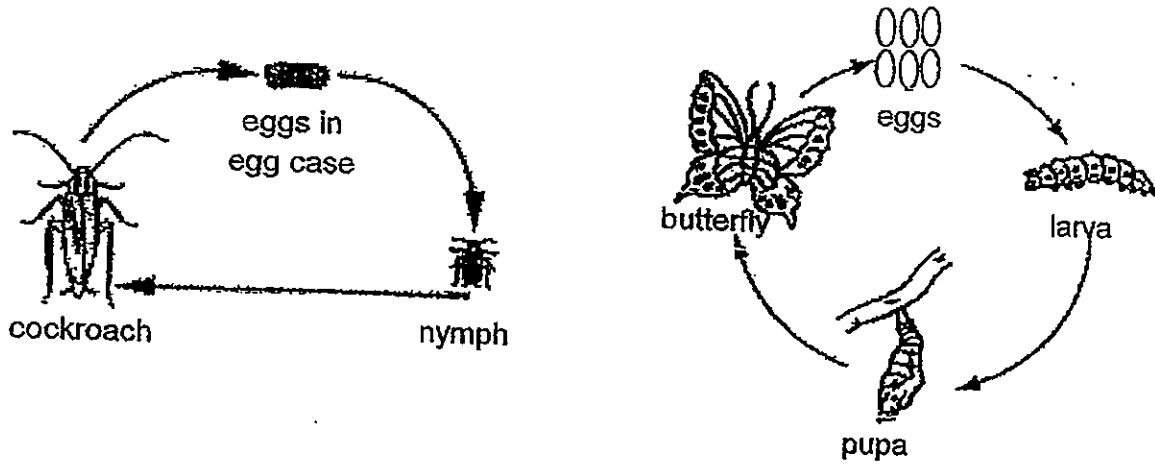
11. The bar graph below shows the number of days in each stage of the life cycle of an insect.



- (a) Based on the graph above, how many days does it take for the insect to become an adult after the egg is hatched? (1 mark)
- \_\_\_\_\_
- \_\_\_\_\_
- (b) Do you think the graph represents the life cycle of a grasshopper? Give a reason for your answer. (1 mark)
- \_\_\_\_\_
- \_\_\_\_\_
- (c) Draw the bar to represent the stage that comes after the "adult" stage. Label the stage in the box above. (1 mark)



12. The diagram below shows the life cycles of cockroach and butterfly respectively.



(a) Based on the diagram, state one similarity and one difference between the two life cycles (2 marks)

Similarity: \_\_\_\_\_  
 \_\_\_\_\_



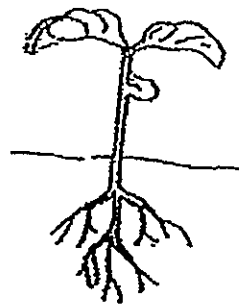
Difference: \_\_\_\_\_  
 \_\_\_\_\_

(b) Why is it important for cockroaches and butterflies to lay many eggs at the same time?

(1 mark)

\_\_\_\_\_  
 \_\_\_\_\_

13. Study the table showing the drawing and description of a flowering plant below.

Part	Drawing	Description
A		The seed is protected by the seed coat. The seed coat will swell up and break up.
B		Roots start to grow. Roots grow downwards towards the ground.
C		Shoots start to grow and the leaves appear.

(a) What would you do for the seed coat to swell up and break up? (1 mark)

---

(b) Draw part B in the box provided above to match the description. (1 mark)

(c) Is the plant in part 'C' an adult plant? Explain why. (1 mark)

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14. Read the news report below.

**NEWS REPORT**

Some animals have been caught. They have a pair of wings but cannot fly. Their bodies are covered with greyish feathers. Several eggs belonging to these animals were also found. The young look like the adults.

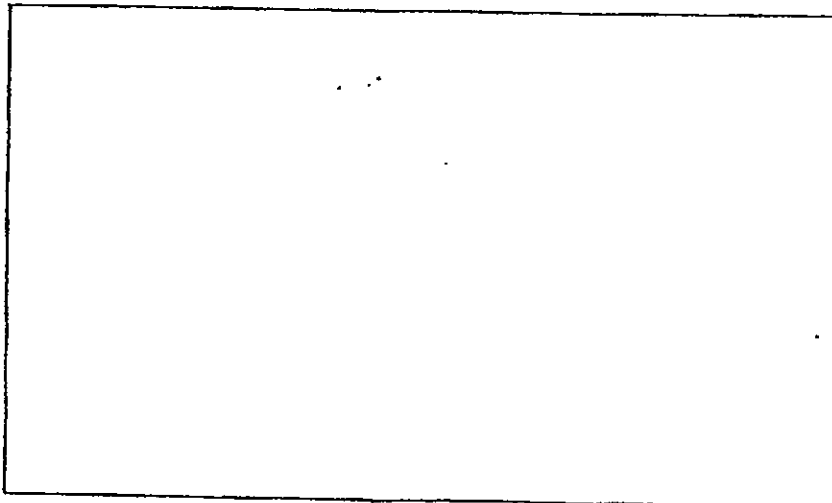
- (a) Based on the news report above, which group of animals does it belong to? Give one evidence to support your choice. (1 mark)

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- (b) Draw and name the stages of the life cycle of the animal in the space provided below.

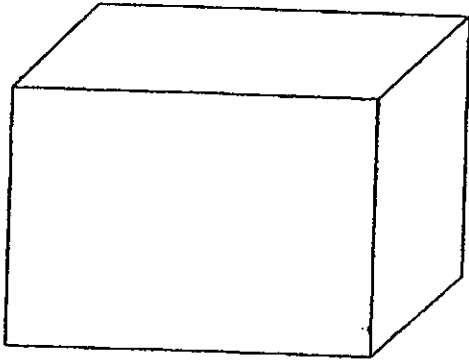
(1 mark)



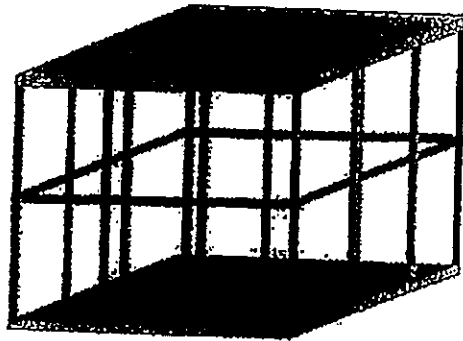
15. Singapore has adopted a female and male panda from China named Jia Jia and Kai Kai. They will be placed in the new attraction called River Safari for 10 years.



These pandas need to be enclosed during the trip to Singapore.



Enclosure A



Enclosure B

- (a) Which one of the following above should be used to keep these pandas in? Give a reason for your choice. (1 mark)

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- (b) The trip from China to Singapore takes a long time.

Name two other basic needs that must be provided to ensure that the pandas survive the trip? (1 mark)

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- (c) Why must the adopted pandas be a female and male? (1 mark)

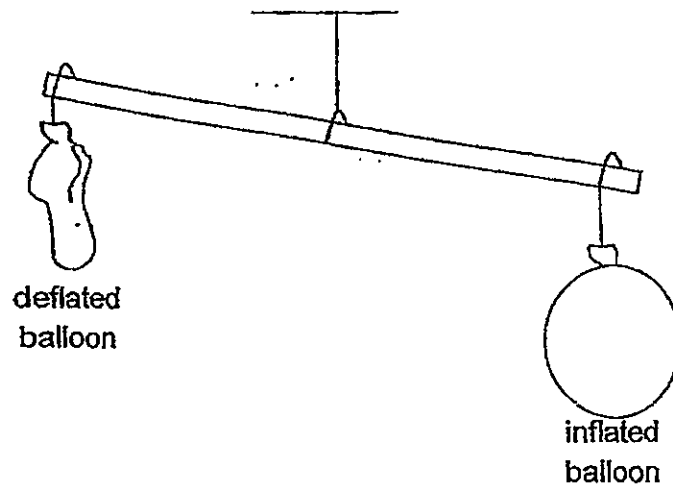
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16. Ah Seng wrote 3 questions in a table as shown below to find out the characteristics of a living and non-living thing.

No.	Question	Yes or No	
		Living thing	Non-living thing
1.	Does it have mass?		
2.	Does it have volume?		
3.	Does it have a life cycle?		

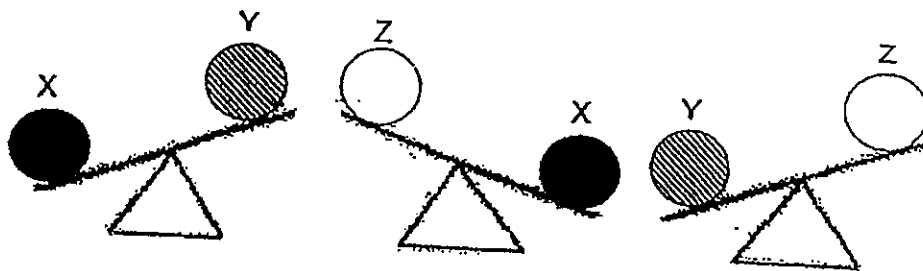
- (a) Write 'Yes' or 'No' to complete the table for both living and non-living things. (2 marks)
- (b) What apparatus would he use to measure the volume of water? (1 mark)
- 

Ah Seng hung a deflated and an inflated balloon. He drew his observation as shown below.



- (c) Give a reason for his observation. (1 mark)
-

17. Zul weighed three types of ball of identical size on a balance scale as shown in the diagram below and compared their masses.



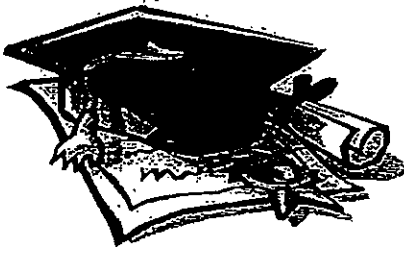
(a) Ball \_\_\_\_\_ has the lightest mass.

(1 mark)

(b) Ball \_\_\_\_\_ has the heaviest mass.

(1 mark)

END OF PAPER



# ANSWER SHEET

EXAM PAPER 2012

SCHOOL : ROSYTH  
SUBJECT : PRIMARY 4 SCIENCE

TERM : CA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	3	4	3	3	2	4	1	2	1

- 11)a)It takes 35 days for the insect to become an adult.  
b)No. Grasshoppers have 3 stages in their life cycle.  
c)Egg.
- 12)a)Similarity: Both the cockroach and the butterfly start with eggs.  
Difference: The cockroach has a 3-stage life cycle but the butterfly has a 4-stage life cycle.  
b)It is important as other insects or animals can eat the eggs and not all will survive.
- 13)a)I will provide the seed with water in order to make the seed swell up.  
b)No. the plant did not bear flowers yet as it is a flowering plant.
- 14)a)Birds. Their bodies are covered with grayish feathers.  
b)

- 15)a)Enclosure B. Air can enter and the pandas need air to breathe.  
b)The pandas need food and water.  
c)They will give birth to young pandas.

- 16)a)1)Yes      Yes  
      2)Yes      Yes  
      3)Yes      No

- b)A measuring cylinder.  
c)The inflated balloon has more mass than the deflated balloon.

- 17)a)Z  
     b)X