

Name : _____ ()

Class : Primary 4 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 4

Continual Assessment 1 – 2012

SCIENCE

BOOKLET A

29th February 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.

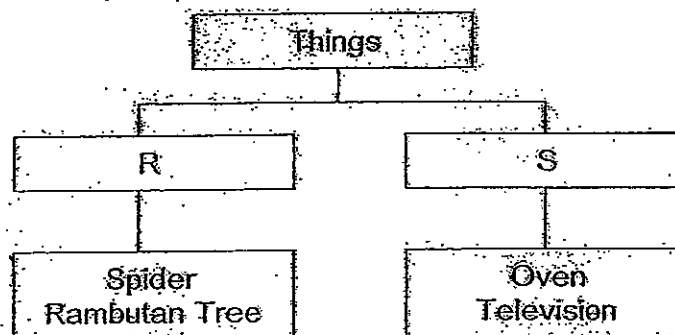
Shade your answers in the Optical Answer Sheet (OAS) provided.

This paper consists of 26 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 the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.

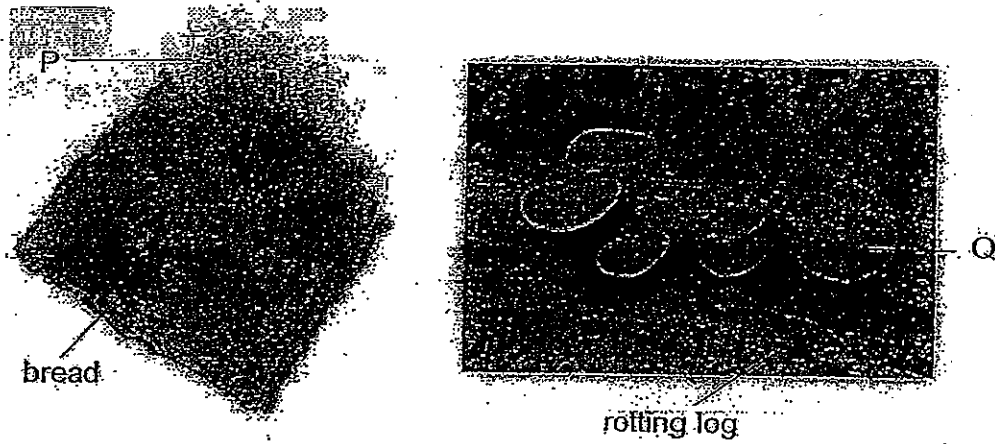
1. Study the classification chart below.



Which one of the following set of headings best represents R and S?

	R	S
(1)	Can respond to touch	Cannot respond to touch
(2)	Can reproduce	Cannot reproduce
(3)	Can make its own food	Cannot make its own food
(4)	Can move freely from place to place	Cannot move freely from place to place

2. The diagrams below show two different types of living things, P and Q, and they have some common characteristics.



Which of the following characteristics do P and Q have in common?

- A Both feed on dead matter.
 - B Both reproduce from spores.
 - C Both cannot make their own food.
 - D Both can respond to changes in their environment.
- (1) A and B only
(2) C and D only
(3) B, C and D only
(4) A, B, C and D

3. Linda was asked by her Science teacher to classify the following animals into 3 groups.

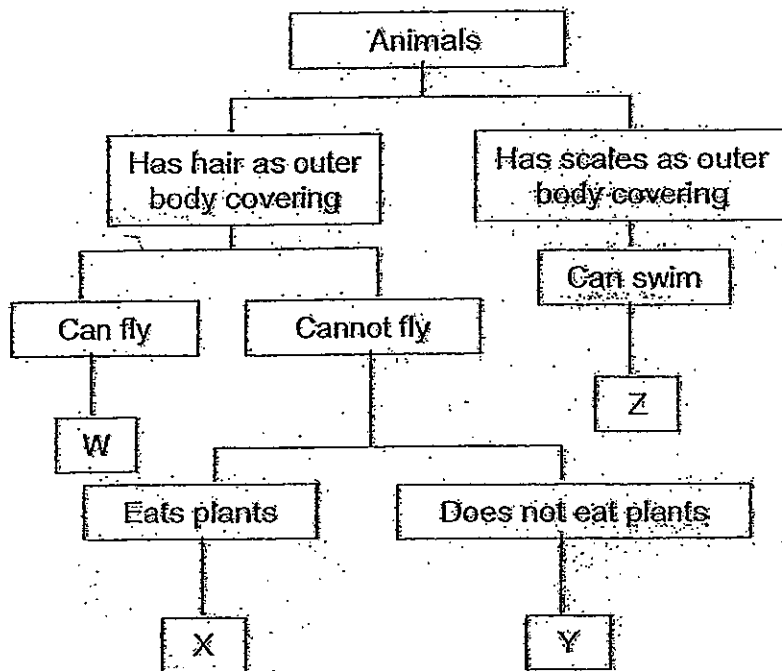
Bat, Guppy, Goldfish, Cockroach nymph, Silverfish

Which of the following characteristics could Linda use to classify the above animals into 3 groups?

- A Number of legs.
- B Type of movement.
- C Method of reproduction.

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

4. Study the classification chart below.

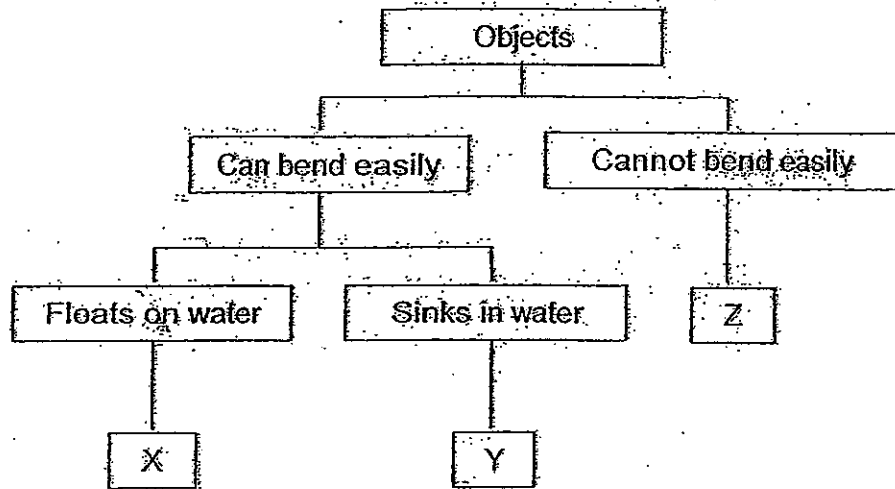


Based on the classification chart above, which of the following statements about animals A, B, C and D are definitely correct?

- A Animal W lays eggs.
- B Animals X and Y cannot fly.
- C Animal Z breathes through gills.
- D Animals W, X and Y are mammals.

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

5. Glad classified some objects into two groups as shown in the diagram below:



Which one of the following correctly represents X, Y and Z?

	X	Y	Z
(1)	rubber tube	styrofoam box	stone
(2)	plastic ruler	stone	nail
(3)	nail	rubber ball	stone
(4)	plastic straw	leather belt	metal rod

6. Jaelyn did a scratch test on 4 different materials, A, B, C and D, to see which material was the hardest. She used 3 different objects to scratch each of the materials. The table below shows her results.

Material	Scratched by		
	Glass	Fingernail	Rock
A	x	x	x
B	√	x	√
C	√	√	√
D	x	x	√

Key:

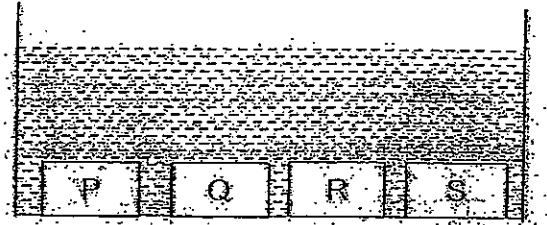
√ – scratch marks are seen

X – no scratch marks are seen

Which one of the following shows the correct arrangement of the materials from the least hard to the hardest?

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

7. Four pieces of materials, P, Q, R and S, of the same size were weighed before they were immersed into a container of water as shown below.



After 10 minutes, the pieces of materials were taken out and weighed again. Their masses were recorded in the table below.

Material	Mass at the beginning (g)	Mass at the end (g)
P	4	7
Q	8	8
R	11	20
S	9	15

Based on the information recorded in the table above, which one of the above materials is most suitable for making a raincoat?

- (1) P
- (2) Q
- (3) R
- (4) S

8. Bee Eng collected 2 leaves as shown below.

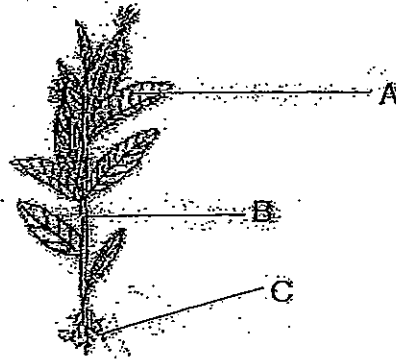


Which of the following statements is/are true of the two leaves above?

- A Both leaves have the same edge.
- B Both leaves have the same shape.
- C Both leaves have the same type of vein pattern.

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

9: The diagram below shows a plant.



Which one of the following shows the correct functions of the plant parts A, B and C of the plant?

	A	B	C
(1)	Water is absorbed	Air enters or leaves through stomata	Water and food are transported
(2)	Water and food are transported	Water is absorbed	Air enters or leaves through stomata
(3)	Air enters or leaves through stomata	Water and food are transported	Water is absorbed
(4)	Air enters or leaves through stomata	Water is absorbed	Water and food are transported

10. Which one of the following plant parts is a fruit?

(1)



onion

(2)



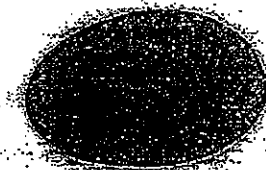
carrot

(3)



cucumber

(4)



potato

11. Which of the following organs are part of the skeletal system?

- A Skull
- B Muscles
- C Rib cage
- D Back bone

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

12. Which one of the following statements is true of the systems in our bodies?

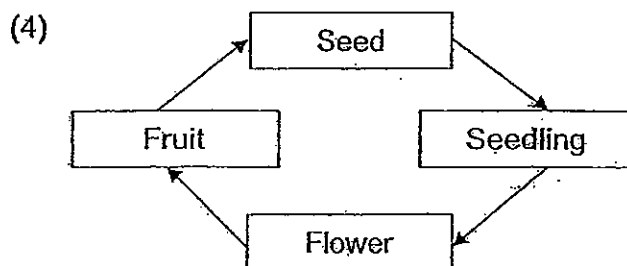
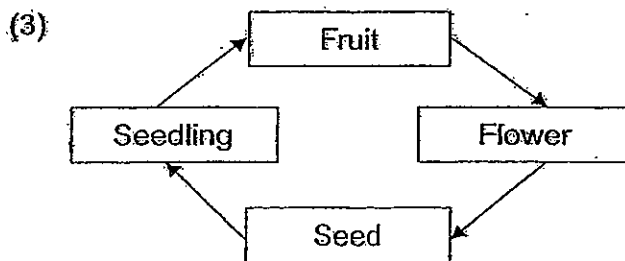
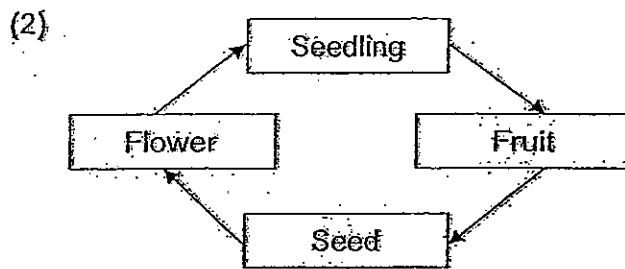
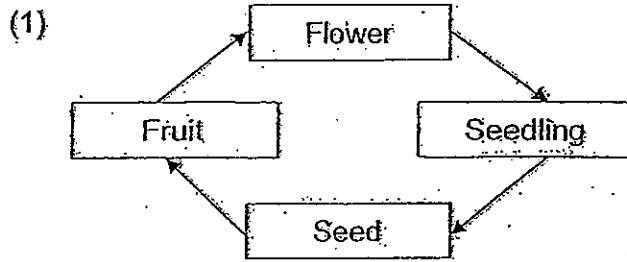
- (1) The skeletal system alone enables our bodies to move.
- (2) The circulatory system carries oxygen from all parts of our bodies to the lungs.
- (3) The digestive system carries digested food to the rectum to be removed from our bodies.
- (4) The respiratory system enables the exchange of gases between our bodies and the environment.

13. Which of the following statements are true about the human digestive system?

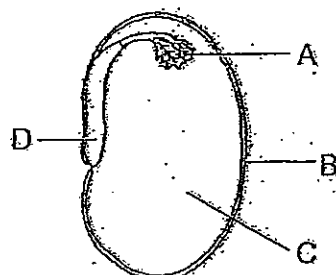
- A The saliva in the mouth helps to digest the food.
- B Digestion of food is completed in the small intestines.
- C Digestion of food takes place in the gullet and the stomach only.
- D Most of the water from the undigested food is absorbed by the body in the large intestines.

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

14. Which one of the following shows the correct life cycle of a chilli plant?



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



Which part of the seed provides food for the seedling?

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

16. Martin wanted to compare the rate of growth of the seedling of two different types of seeds, A and B.

He planted 15 of each type of seeds in 2 identical plastic containers laid with wet cotton wool and tabulated their growth in the table below.

		Average length of shoot of germinating seeds (cm)						
Number of days		0	2	4	6	8	10	12
Seeds	A	0	1	1.5	2.1	3	4.2	5.5
	B	0	0.5	1.1	1.7	2.5	3.3	4.2

Based on the results shown in the table above, what can Martin conclude about the experiment?

- (1) Seedlings A grew faster than seedlings B.
- (2) Seeds A and B started germinating on day 2.
- (3) Seedlings B grew healthier than seedlings A.
- (4) All the seeds, A and B, germinated by day 12.

17. Which of the following statements about the life cycles of plants in the jungle are true?

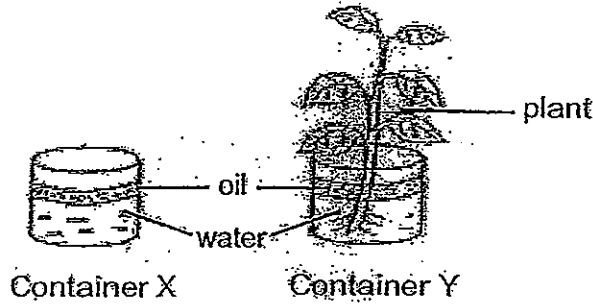
- A They follow a pattern.
- B They are natural processes.
- C All the cycles begin with a seed.
- D All the cycles take the same time to complete.

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

18. Which one of the following is not a cycle?

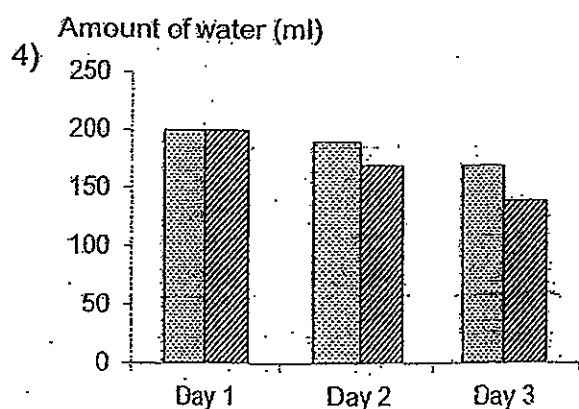
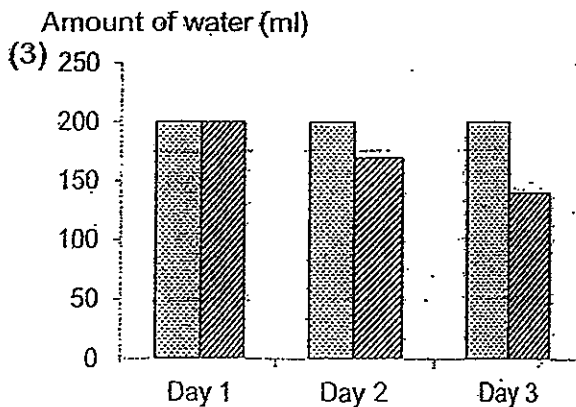
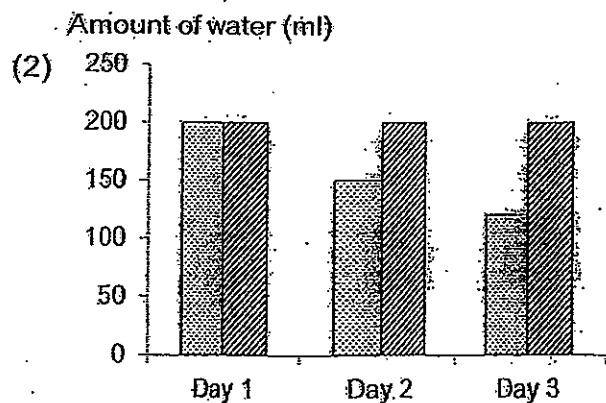
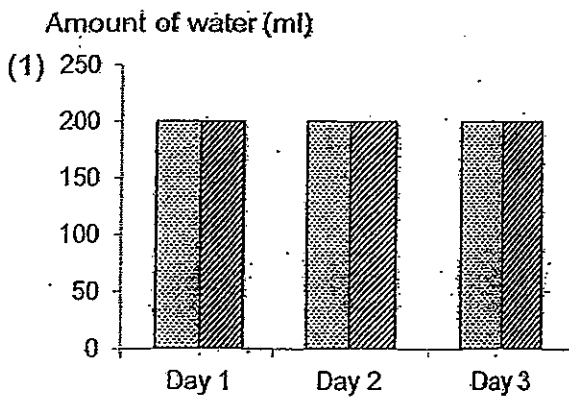
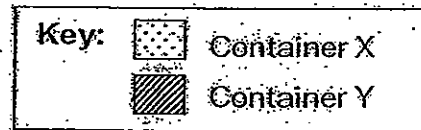
- (1) Tidal change
- (2) Day and night
- (3) Rain and shine
- (4) Seasonal change

19. Bernie poured 200ml of water into two identical containers, X and Y. He placed a plant in container Y before pouring a layer of oil on the water surface in both containers as shown below.











He then placed the two containers in his room for 3 days and recorded the amount of water in each container daily. Bernie then presented his results in a bar graph.

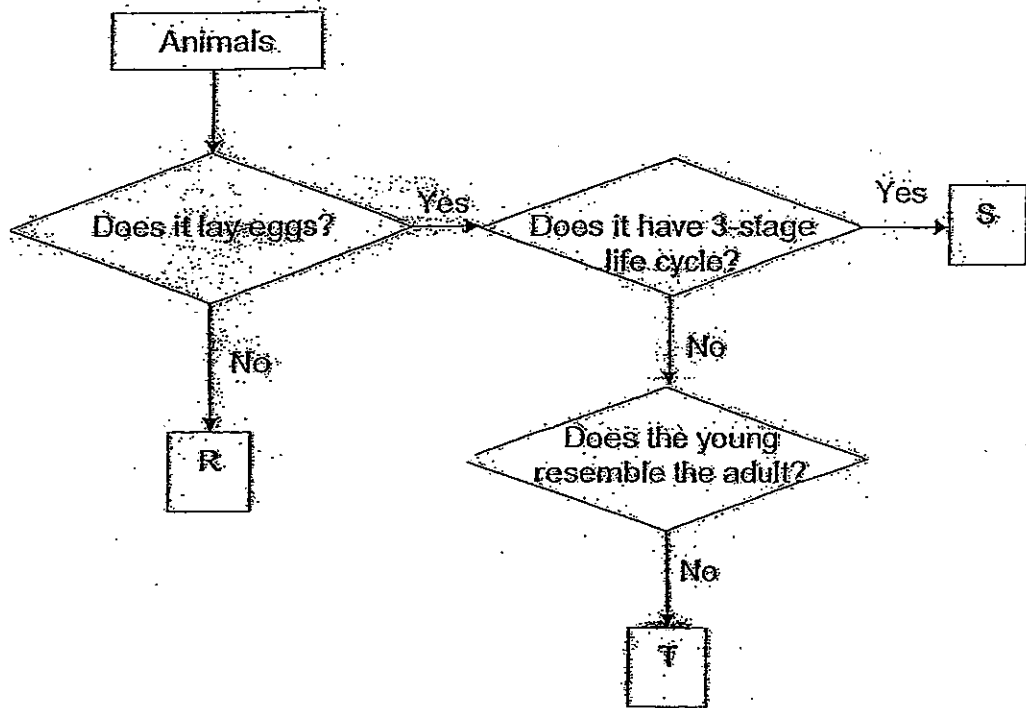
Which one of the following bar graphs shows the correct amount of water in each container after 3 days?



20. Which one of the following pairs of animals is correctly matched?

	Adult	Young
(1)		
(2)		
(3)		
(4)		

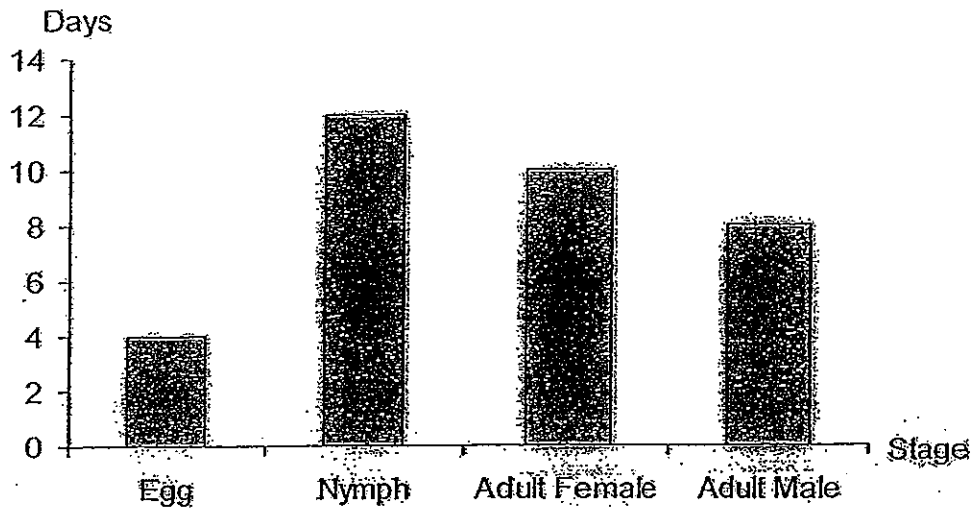
21. Study the flowchart below.



Based on the information given in the flowchart, which one of the following correctly represents R, S and T?

	R	S	T
(1)	guppy	duck	cockroach
(2)	platypus	grasshopper	mealworm beetle
(3)	whale	chicken	mosquito
(4)	tiger	butterfly	dragonfly

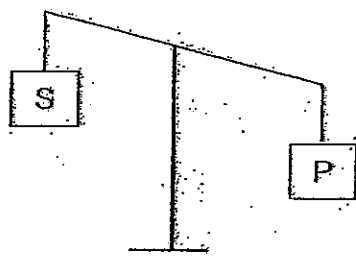
22. The graph below shows the number of days of each stage in the life cycle of an insect.



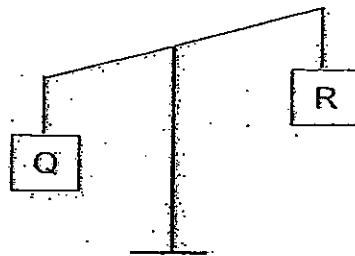
Based on the graph above, which of the following statements about the insect is correct?

- (1) The life cycle of the insect has 4 stages.
 - (2) The insect lives as an adult for 18 days.
 - (3) The insect's lifespan is less than 4 weeks.
 - (4) The young takes 16 days to become an adult after the egg is hatched.
23. Which of the following statements about matter and non-matter are true?
- A All matter can be seen.
 - B Matter has mass but non-matter does not.
 - C Matter occupies space but non-matter does not.
 - D Matter can exist in three states while non-matter cannot.
- (1) A and B only
 - (2) C and D only
 - (3) B, C and D only
 - (4) A, B, C and D

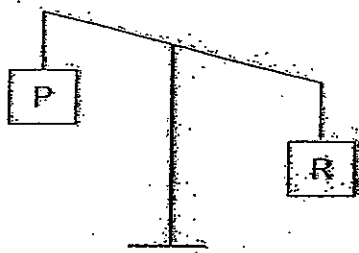
24. Four similar-sized rectangular blocks, P, Q, R and S, made of different materials, were hung on a lever balance as shown below.



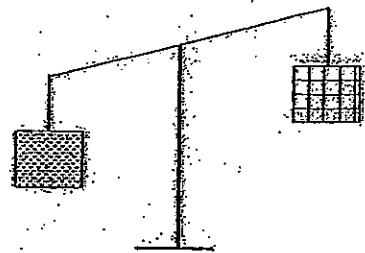
Set-up 1





Set-up 2





Set-up 3

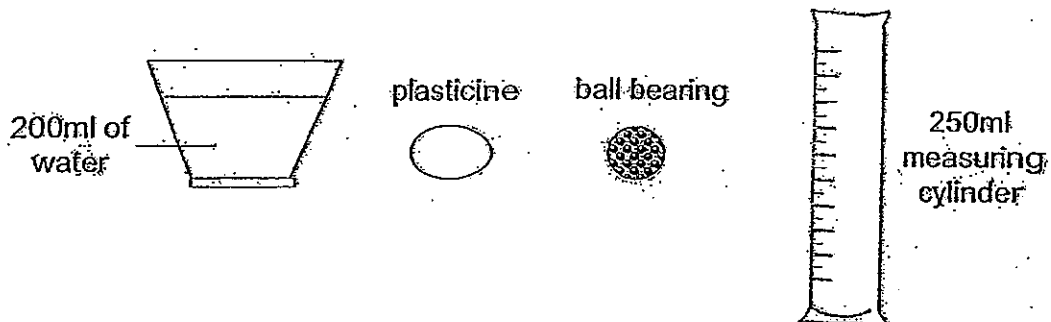


Set-up 4

Which of the rectangular blocks, P, Q, R and S, could  and  in set-up 4 represent?

		
(1)	P	Q
(2)	S	R
(3)	Q	S
(4)	S	P

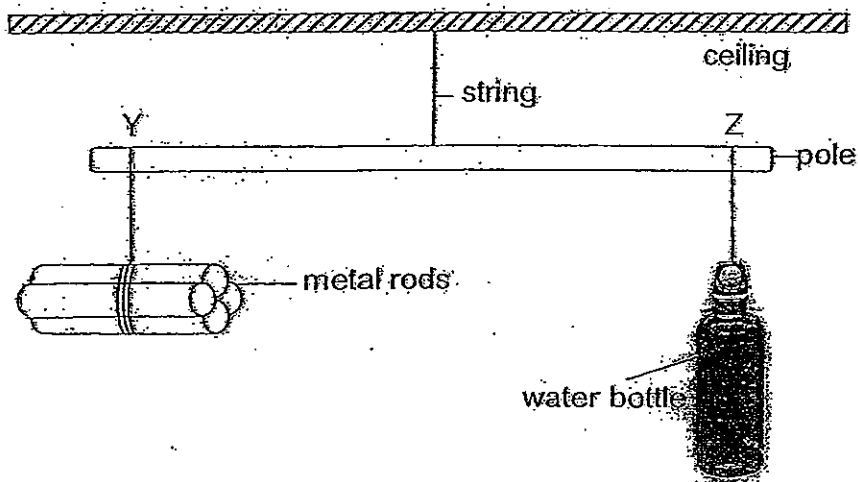
25. A group of students had to conduct some investigations to answer a few Science questions posed by their teacher. They were given the following apparatus by the laboratory technician.



Using these apparatus, which of the following question(s) posed by their teacher would the group of students be able to answer?

- A Is the volume of the ball bearing 30cm^3 ?
 - B Does the ball of plasticine float or sink in water?
 - C Does the ball bearing take up more space than the ball of plasticine?
 - D Is the mass of the ball of plasticine greater than that of the ball bearing?
- (1) A and B only
 - (2) C and D only
 - (3) A, B and C only
 - (4) A, B, C and D

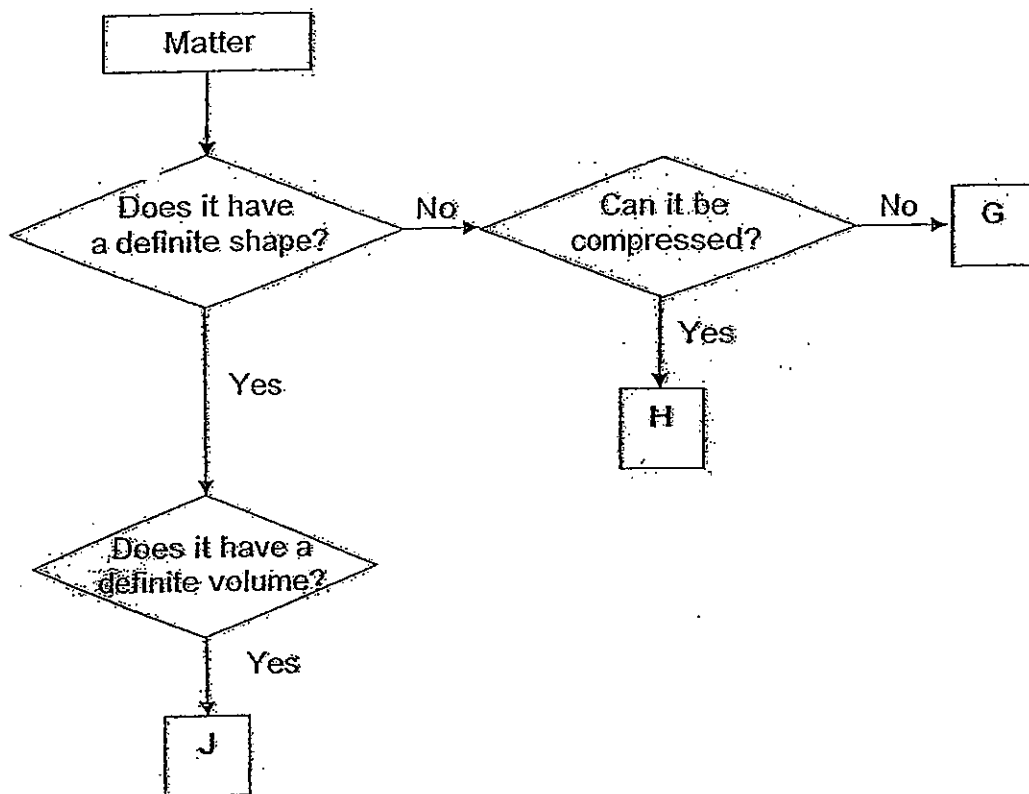
26. The diagram below shows a pole hanging from the ceiling. End Y of the pole has 4 similar metal rods hanging from it while end Z of the pole has a water bottle filled with water hanging from it.



If the pole was balanced, which of the following statements are correct?

- A If the water inside the water bottle was poured away, end Y would be higher than end Z.
 - B If one of the metal rods was removed from the weight hanger, end Z would be lower than end Y.
 - C The filled water bottle had the same mass as the four metal rods.
 - D If another identical metal rod is added to ends Y and Z, the pole would still be balanced.
- (1) A and D only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

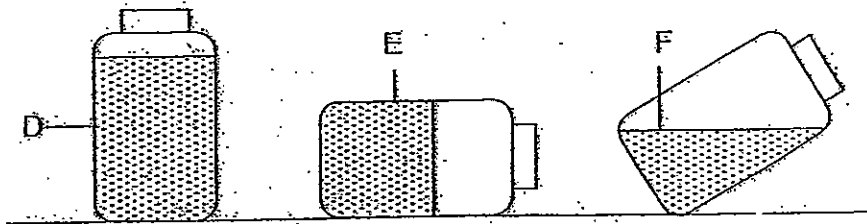
27. Study the flowchart below.



Which one of the following correctly represents G, H and J?

	G	H	J
(1)	Sponge	Air	Oil
(2)	Oxygen	Water	Coin
(3)	Water	Carbon dioxide	Stone
(4)	Orange juice	Water	Metal rod

28. The diagram below shows 3 substances, D, E and F in 3 similar containers.

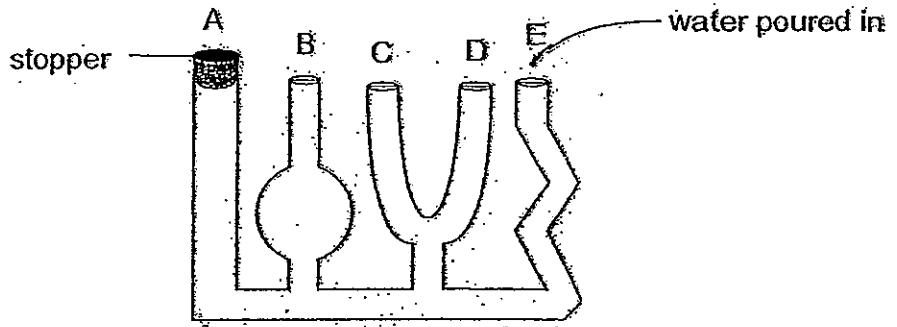


Based on the above diagram, which of the following statements are definitely correct?

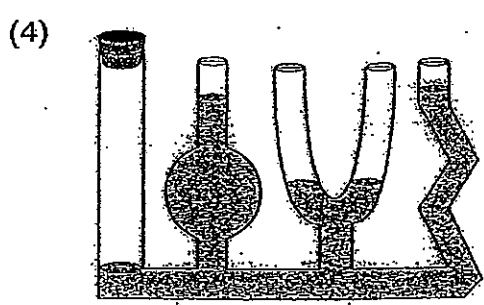
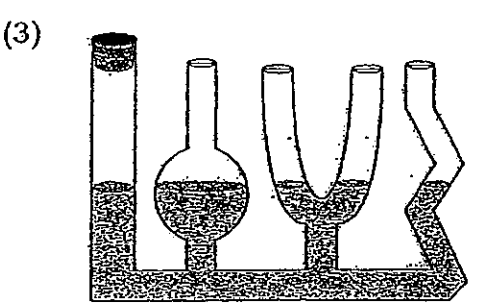
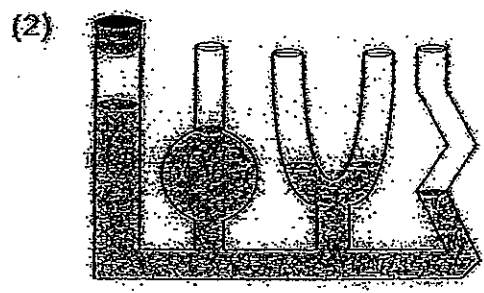
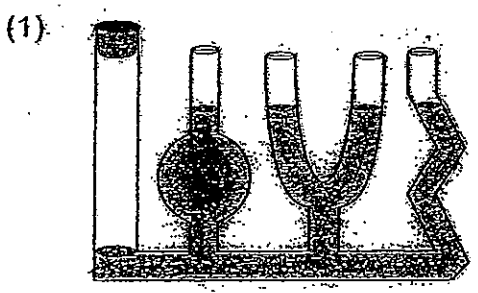
- A Substance D is a solid.
- B Substance E is a solid.
- C Substance F takes the shape of the container.
- D Substances D, E and F have a definite volume.

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

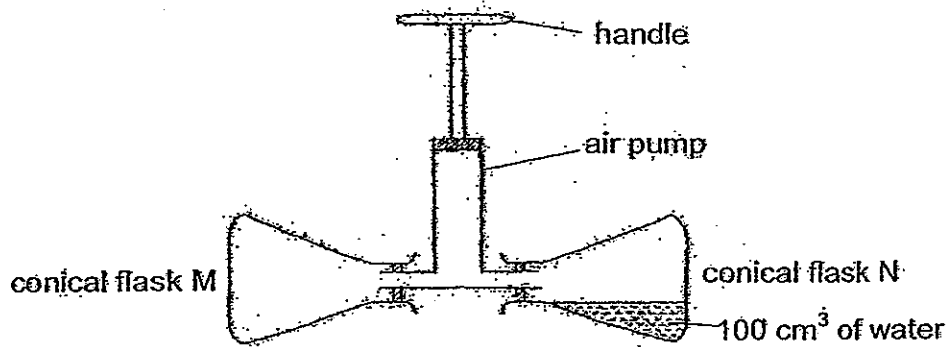
29. Ismail has a communicating vessel as shown in the diagram below. He put a stopper at tube A and poured 200ml of water into the vessel through tube E.



What is the final water level in the tubes, A, B, C, D and E after Ismail had poured in the water?



30. Two identical conical flasks M and N are joined to an air pump as shown in the diagram below. Each flask can hold 250 cm^3 of matter. The handle of the air pump is raised and pushed down, pumping 100 cm^3 of air into the conical flasks.



What is the final volume of air in the two flasks?

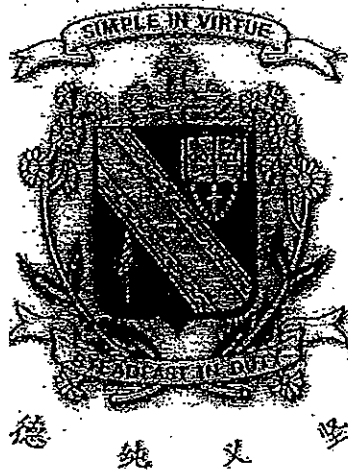
	Volume of air in conical flask M	Volume of air in conical flask N
(1)	300 cm^3	200 cm^3
(2)	250 cm^3	200 cm^3
(3)	300 cm^3	300 cm^3
(4)	250 cm^3	150 cm^3

***** END OF SECTION A *****

Name : _____)

Class : Primary 4 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 4

Continual Assessment 1 – 2012

SCIENCE

BOOKLET B

29th February 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 15 printed pages.

Booklet A	60
Booklet B	40
Total	100

Parent's Signature/Date

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. Diagram A below shows a plant, the Venus Flytrap. It is a carnivorous plant that catches and digests animal prey—mostly insects.

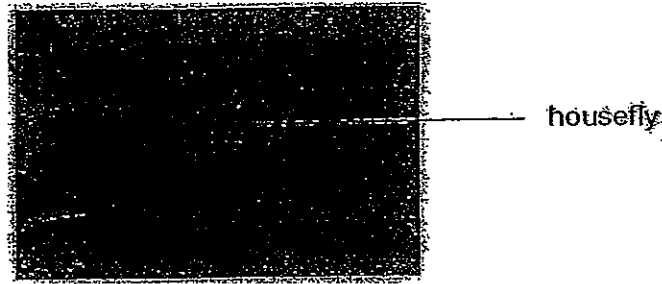


Diagram A

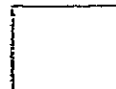
Diagram B below shows the leaf snapping shut after the housefly has landed on it.



Diagram B

- (a) Based on the above observation, state one thing that living things can do as shown by the leaf of the Venus Flytrap. [1]

- (b) The Venus Flytrap has been observed to grow towards light. Suggest a reason why this is so. [1]



32. The diagram below shows two living things, R and S.



R



S

Based on what you can observe in the above diagram, state one similarity and one difference between the two plants. (Do not compare size and shape) [2]

Similarity: _____

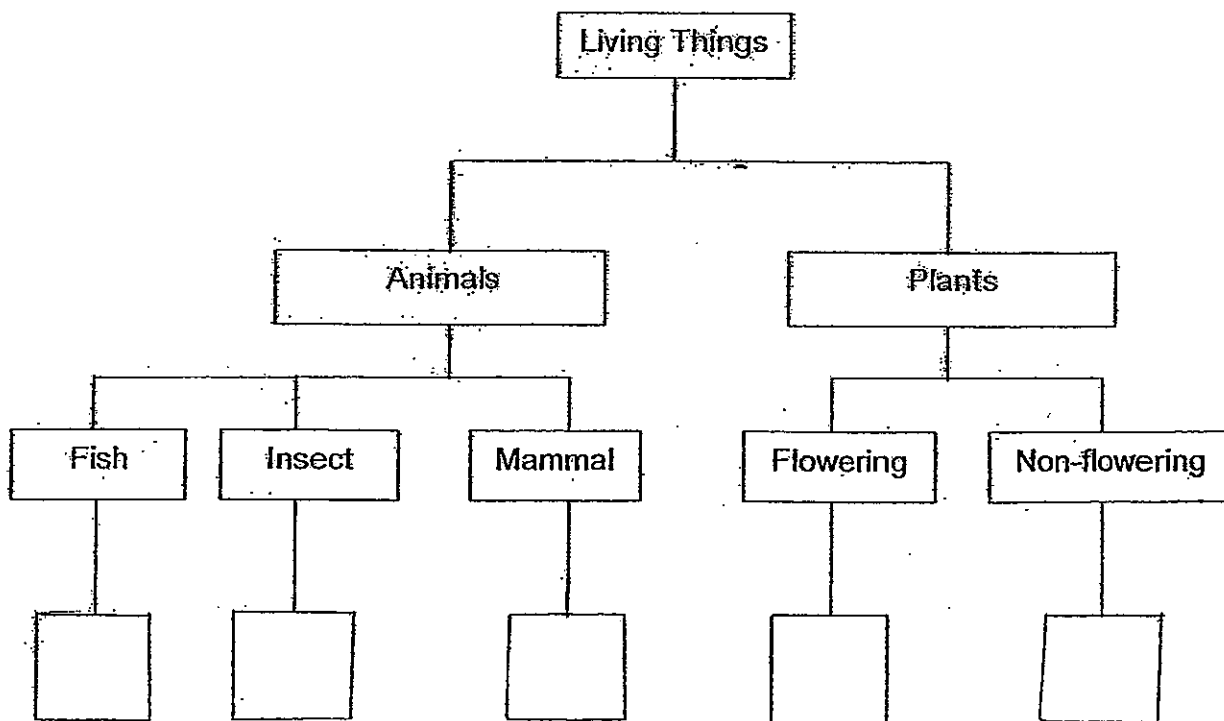
Difference: _____



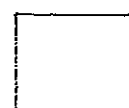
33. The table below lists the characteristics of four different living things, P, Q, R and S. A tick (✓) in the box indicates the characteristic which the living thing has.

Characteristic of living thing	Living Things			
	P	Q	R	S
Gives birth to live young				✓
Takes in dissolved oxygen through its gills	✓			
Can trap sunlight		✓		
Has 6 legs and 3 body parts			✓	
Can move about from place to place	✓		✓	✓
Reproduces by seeds		✓		

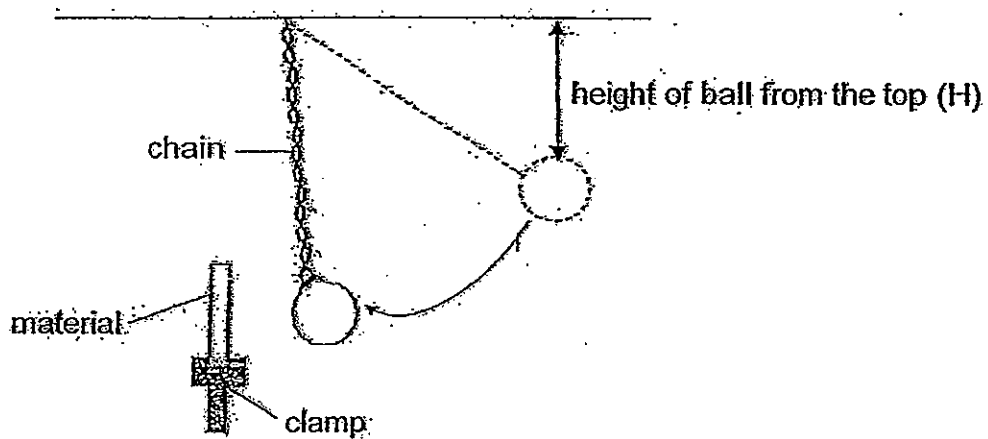
- (a) Based on the information given in the table above, place the four living things in the classification chart below by writing the letters, P, Q, R and S, in the boxes provided below. [2]



- (b) Can the spider be classified under the "Insect" group? Give 2 reasons to justify your answer. [2]



34. A metal ball is hung from a support with a chain. It is then raised to a certain level as shown below and allowed to drop. As the metal swings downwards, it hits a piece of material that is put in its path. The height of the ball from the top is varied till the downward swing of the ball breaks the piece of material. This height (H) is then recorded. The process is repeated with different types of materials, A, B, C and D.



The results of the experiment are recorded in the table below.

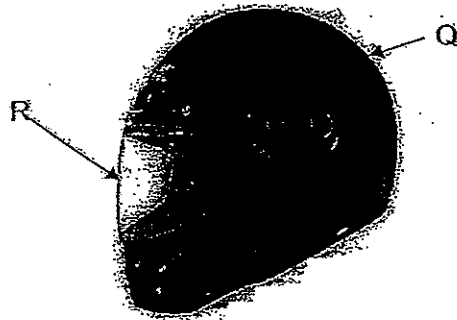
Types of materials	H (cm)
A	16
B	10
C	22
D	31

- (a) Which material (A, B, C or D) has the greatest strength? [1]

- (b) Explain your answer above. [2]



35. Johnny was shown a picture of a motorcycle crash helmet as shown below.



He was told that the purposes of parts Q and R are as follows:

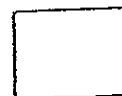
Part Q: To protect the head in the event of an accident.

Part R: To protect the rider's eye from dust.

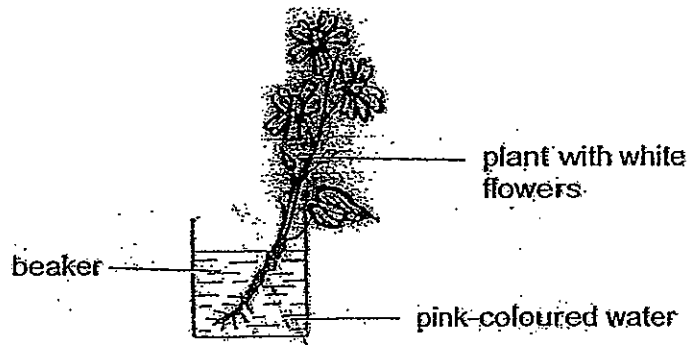
He was also told that part Q is made from a special type of plastic that is light and is as strong as metal.

(a) Suggest a reason why part Q is not made of metal. [1]

(b) Johnny then suggested that 2 materials, glass or plastic, can be used to make part R. Which material, glass or plastic, will be more suitable? Give a reason for your answer. [2]

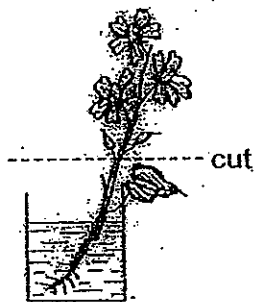


36. A plant with white flowers was placed in a beaker of pink-coloured water. It was left in the Science room for a week. A week later, it was observed that the flowers were still nice and fresh but there was a noticeable difference.

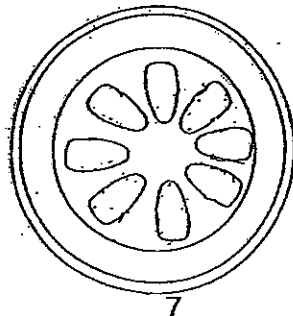


- (a) What was the difference that was observed? [1]
-

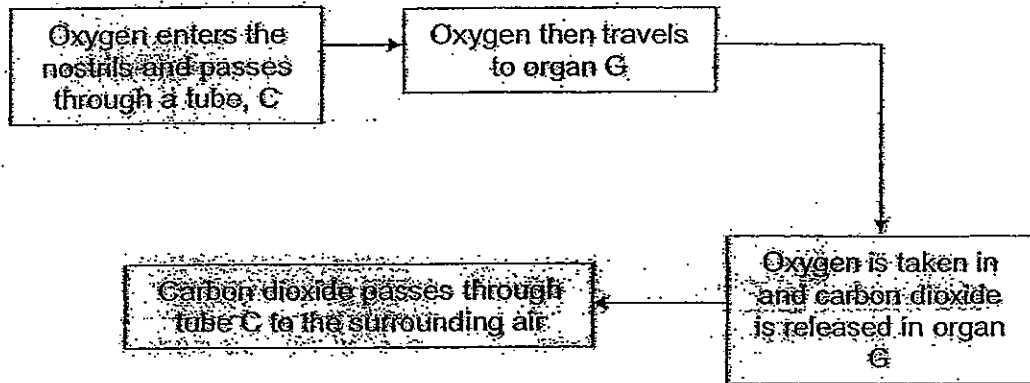
- (b) Explain your answer in (a). [2]
-



- (c) A cut made across the stem as shown above revealed that parts of the stem had been stained pink. In the cross-section of the stem below, shade the parts of the stem that had been stained. [1]

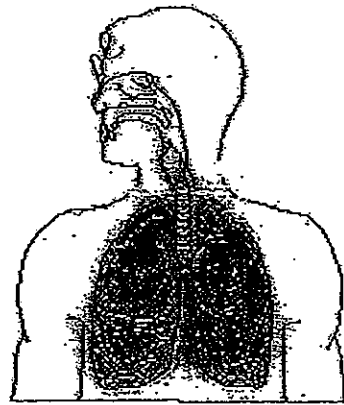


37. The flowchart below shows how gaseous exchange takes place in a body system.



Based on the flowchart above,

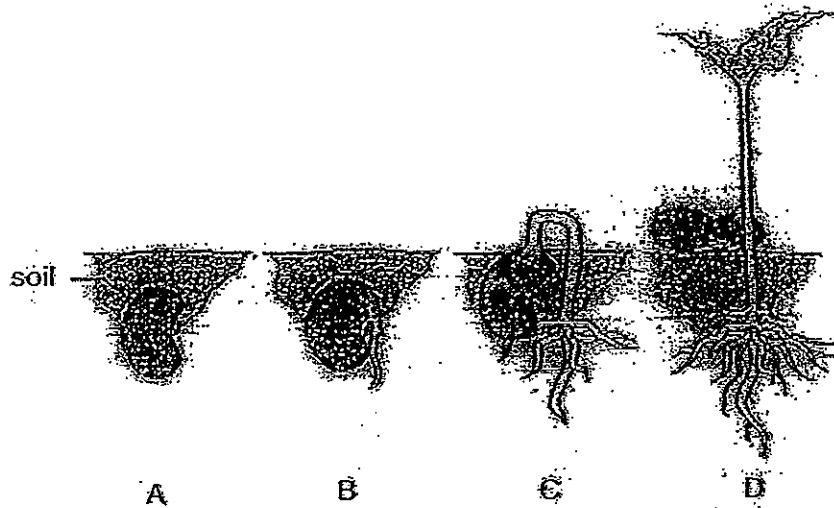
(a) Draw, using arrows, to indicate tube C and organ G in the diagram below. Label clearly. [2]



(b) What happens to the size of organ G when a person inhales? [1]

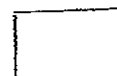


38. The diagram below shows the different stages in the growth of a seedling.

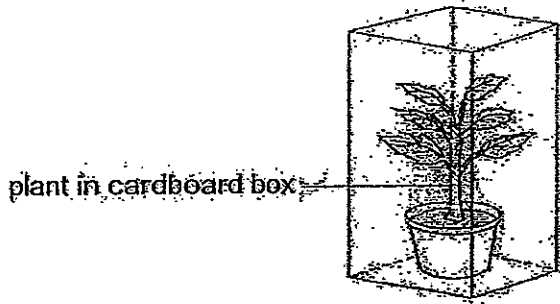


(a) At which stage, A, B, C or D, does the seedling not depend on the seed leaves for food? [1]

(b) Suggest a reason for your answer. [2]

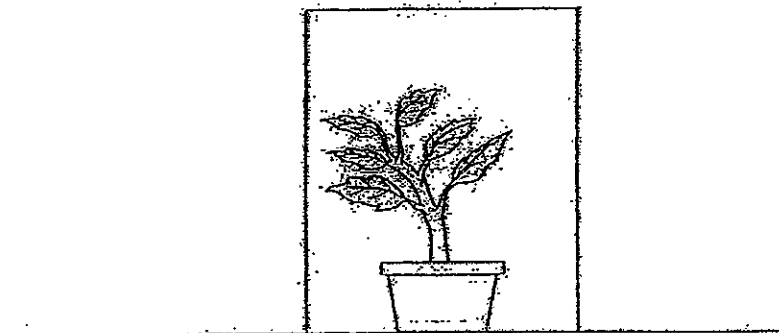


39. Terence carried out an investigation to see how light would affect the growth of a plant. He watered the plant before leaving it in a sealed cardboard box as shown below.



- (a) Terence then pierced a hole in the cardboard box. After a few days, he observed that the plant grew towards one side.

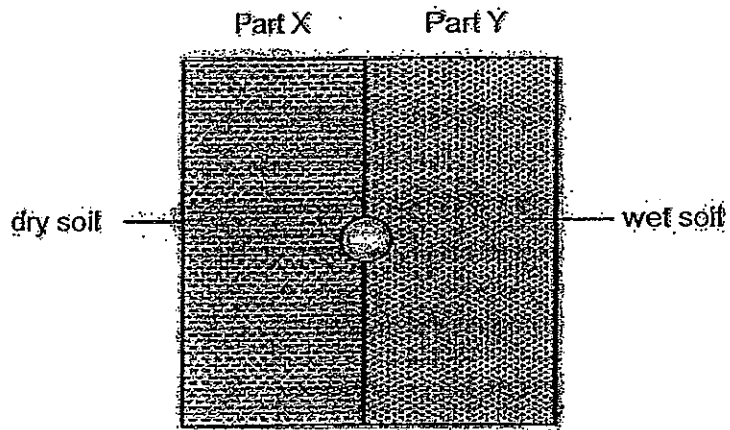
In the diagram below, draw an 'X' on the outline of the box to show a possible position of the hole made by Terence. [1]



- (b) He conducted another experiment using a similar set-up but this time, he did not pierce a hole in the cardboard box. What would happen to the plant a month later? Give a reason for your answer. [2]



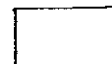
40. George used a tray consisting of two parts, X and Y. He filled part X with dry soil and part Y with wet soil. He then placed a number of organism Q in the middle of the tray in the area marked by the circle.



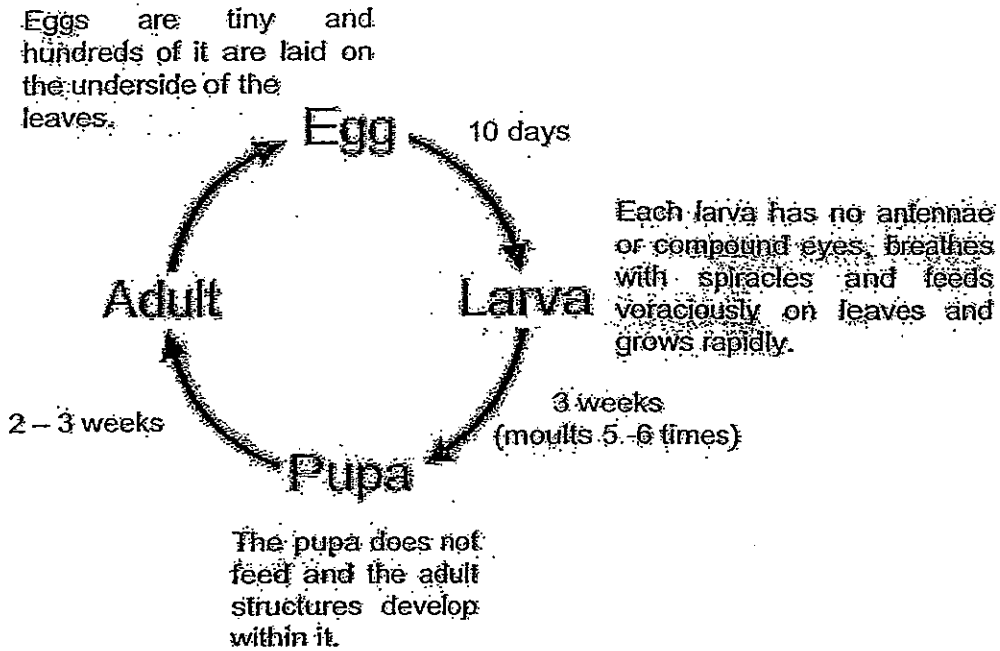
After two hours, George observed that most of the organisms were found in part Y.

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

- (b) Based on George's observation, what can he conclude about organism Q? [1]



41. The diagram below shows the life cycle of an insect.

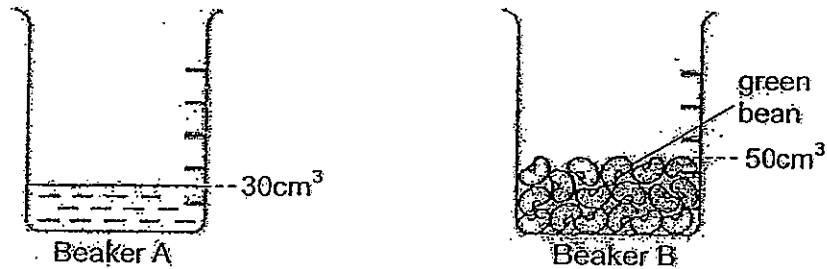


Using the information given above, put a tick (✓) in the correct column for each of the statements given below. [2]

	Statement	True	False	Not possible to tell
(a)	The adult feeds on nectar.			
(b)	The larva moults 5 to 6 times to grow into a pupa.			
(c)	It takes less than 2 months for an egg to turn into an adult.			
(d)	The adult stage lasts 2 to 3 weeks.			



42. Chloe has a beaker A filled with water up to the 30cm^3 and a beaker B filled with green beans up to 50cm^3 as shown below.



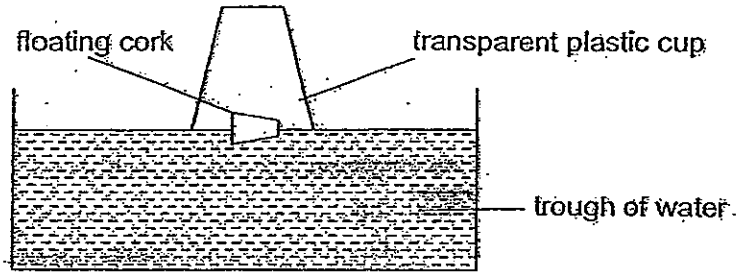
- (a) Chloe decided to pour all the water in beaker A into beaker B. What will be the new water level in beaker B? Put a tick (\checkmark) in the correct box to indicate the new water level in beaker B. [1]

New water level in beaker B	
Above 80cm^3	<input type="checkbox"/>
At 80cm^3	<input type="checkbox"/>
Below 80cm^3	<input type="checkbox"/>

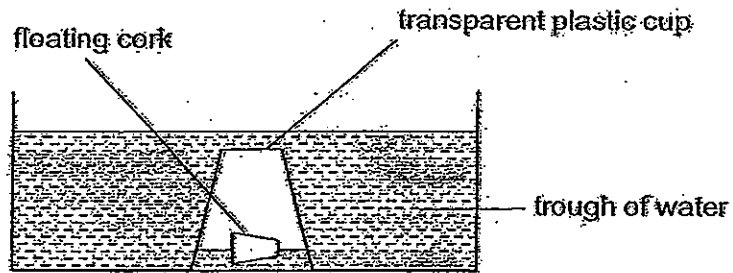
- (b) Suggest a reason for your answer in (a). [2]



43. Sue-ann held a transparent plastic cup over a floating piece of wooden cork as shown below.

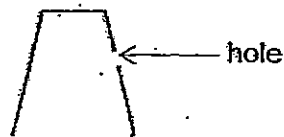


She then pushed the plastic cup into the water till the cup touches the bottom of the trough as shown below.

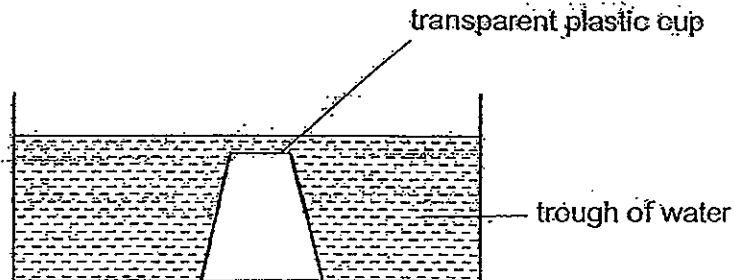


(a) Why is there some water in the inverted plastic cup as shown in the above diagram? [2]

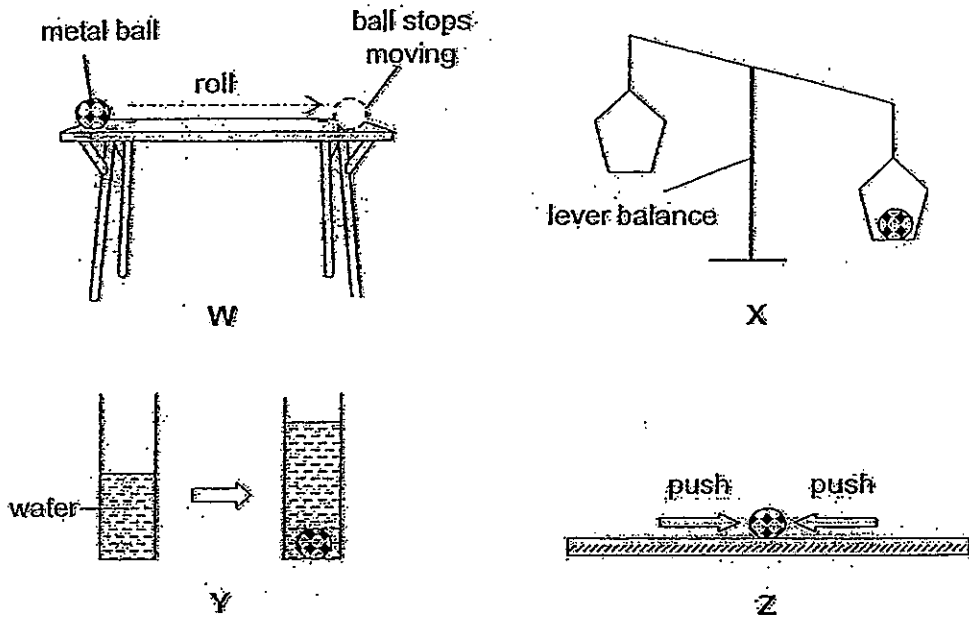
(b) Sue-ann then poked a hole at the side of the inverted plastic cup as shown below.



She then pushed the cup into the water again. Draw in the diagram below to indicate the water level and the position of the wooden cork in the plastic cup. [1]



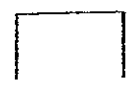
44. Fatimah carried out four different experiments, W, X, Y and Z, using the same metal ball as shown in the diagram below.



- (a) Which of the above experiments, W, X, Y or Z, would enable Fatimah to conclude that the metal ball is a matter? [1]

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

~~ End of Paper ~~



ANSWER SHEET

EXAM PAPER 2012

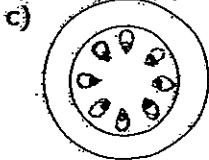
SCHOOL : CHIJ
SUBJECT : PRIMARY 4 SCIENCE

TERM : CA1

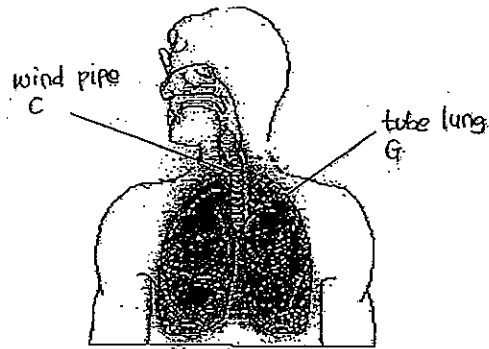
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
2	4	2	3	4	4	2	3	3	3	4	4	4	4	3	1	1

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	3	2	3	3	3	3	3	3	3	3	1	4

- 31)a) Respond to changes.
b) It needs to trap sunlight to make food.
- 32) Similarity: Both have leaves.
Difference: S has flowers but R does not have flowers.
- 33)a) P R S Q
b) No. Because all insects have 6 legs but the spider has 8 legs. It does not have 3 body parts while an insect does.
- 34)a) B.
b) The ball needs to be raised to break the material.
- 35)a) Metal is too heavy to wear on the riders head.
b) Plastic is more suitable. If you had an accident the glass will crack onto your face.
- 36)a) The flowers turn pink.
b) The roots absorb the pink-coloured water and stem carry it to the flowers.



37)a)



b) It will be big.

38)a) D.

b) It has (red/green) leaves thus it is able to make its own food.

39)a)



b) The plant will die/wilt/leaves turn yellow. The plant is not able to receive any sunlight to make food.

40)a) It is to find out whether organism Q prefers wet soil or dry soil.

b) Q like to live in places that are wet.

41)a) Not

b) T

c) T

d) T

42)a) 80cm³.

b) There are air spaces between the green beans so water can enter to take up those spaces.

43)a) The air in the plastic cup can be compressed.

b)

