CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 1
2012

SCIENCE

Name: _____

Class : Primary 4 _____

Date : 15 May 2012

BOOKLET A

30 Questions
60 Marks

Total Time for Booklets A & B : 1 hour 30 minutes

Instructions to Candidates

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

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Section A: Multiple Choice Questions (60 marks)

For each question from 1 to 30, four options are given. One of them is the most suitable answer. Make your choice (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Living things are mainly classified as _____.

   (1) plants, animals, fish and fungi
   (2) plants, animals, fungi and ferns
   (3) plants, animals, fish and micro-organisms
   (4) plants, animals, fungi and micro-organisms

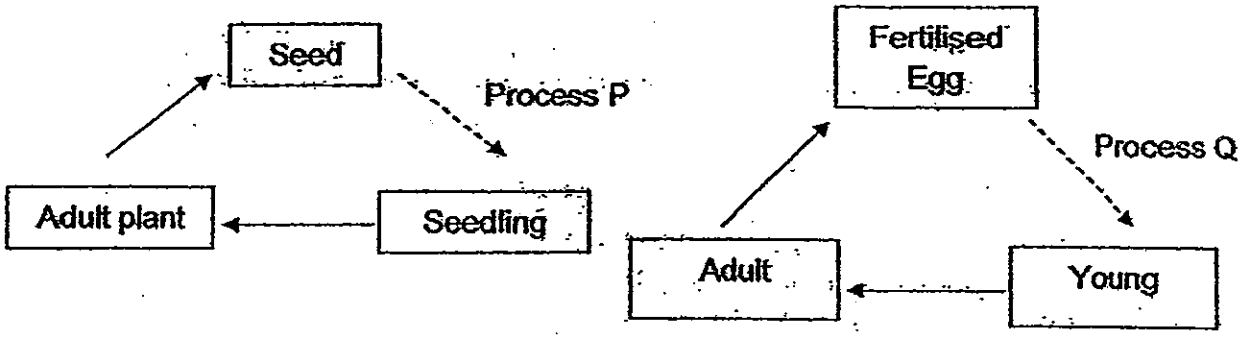
2. Bob found an organism X in the school garden and noted down some characteristics as shown below:

   - Needs air
   - Cannot fly
   - Can reproduce
   - Can make its own food

   Which one of the following could this organism X be?

   (1) rose plant'
   (2) cockroach
   (3) mushroom
   (4) bread mould

3. The diagrams below show the life cycle of a plant and the life cycle of a dragonfly.



What is the similarity between Process P and Process Q?

A: Both processes take place at night.
B: Sunlight must be present in both processes.
C: Both processes require the presence of their parents.
D: Suitable temperature must be present in both processes.

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

4. The following are some statements made by 4 children about plants after their Science lesson.

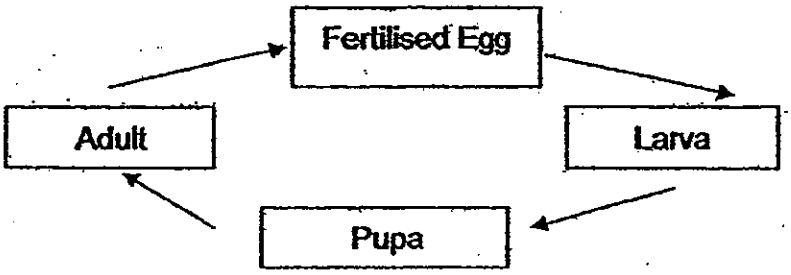
Ali	Flowering plants can produce fruits.
Bob	Flowering plants can make their own food.
Charlie	Non-flowering plants cannot produce fruits.
Danny	Non-flowering plants cannot make their own food.

Who has made a wrong statement?

(1) Ali
(2) Bob
(3) Charlie
(4) Danny

45

5. The diagram below shows the life cycle of a butterfly.



Which of the following statement(s) is/are true?

A The larva eats a lot.
B The larva looks like the adult.
C There are 4 stages in the life cycle.

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

6. Look at the two animals L and M as shown below.

L

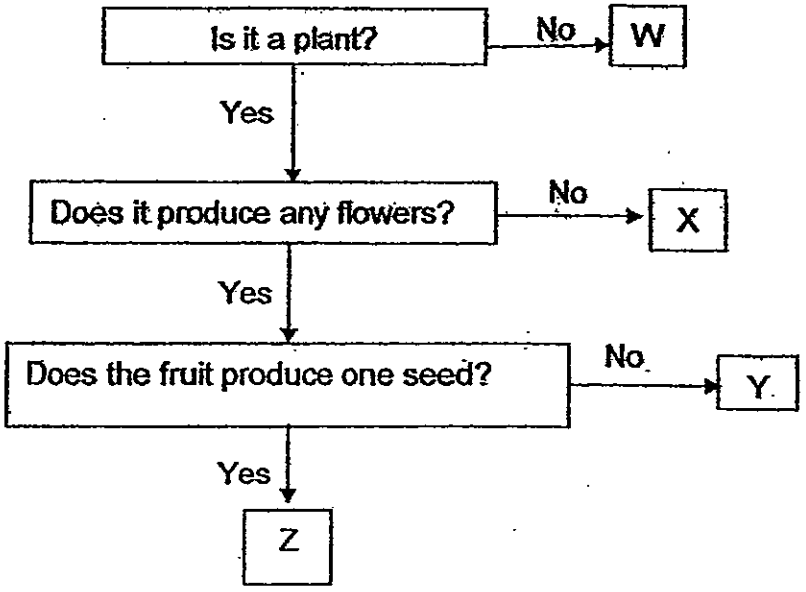
M

Which one of the following comparisons is correct?

	L	M
1)	Has 8 legs	Has 6 legs
2)	Has 2 pairs of wings	Has 1 pair of wings
3)	Has no feelers	Has feelers
4)	Has an abdomen	Has no abdomen

Answer Questions 7 and 8 based on the flow chart below.

The chart below shows some characteristics of organisms W, X, Y and Z.



7. Based on the flowchart above, which of the following statement(s) show(s) the differences between Y and Z?

A They are flowering plants.
B They can produce many fruits.
C They have different number of seeds.

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

8. The table below shows the classification of organisms W, X, Y and Z. Based on the flowchart above, which of the following organisms are correctly classified?

	W	X	Y	Z
1)	cat	orchid	apple	durian
2)	mushroom	moss	watermelon	mango
3)	fern	bread mould	orange	rambutan
4)	dog	cactus	tomato	papaya

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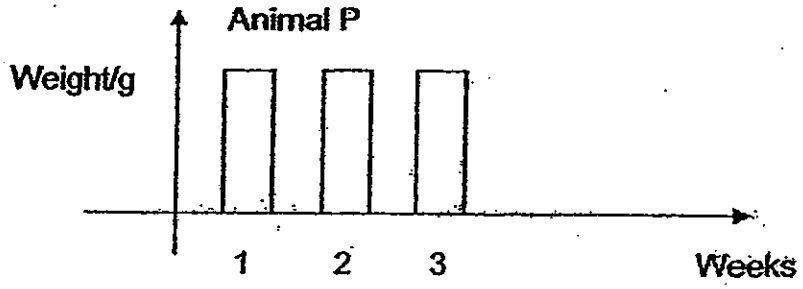
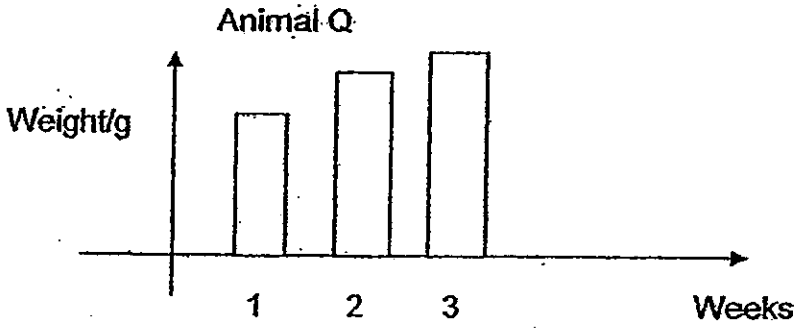
9. Four similar animals P, Q, R and S were placed in four similar cages separately. All four animals were fed daily with the same amount but with different types of food. The four animals were weighed every week. The graphs below show the changes in their weight over a period of three weeks. Which animal is most likely to have been given the most suitable type of food?

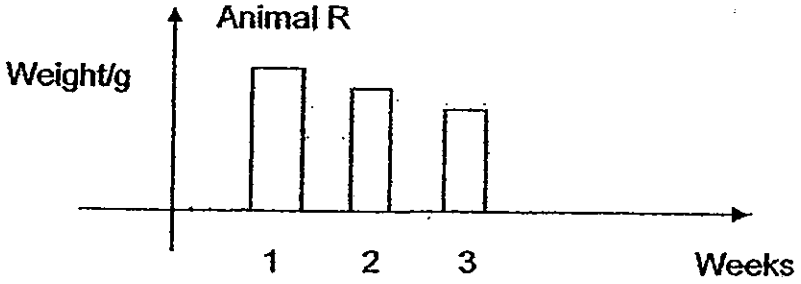
(1)



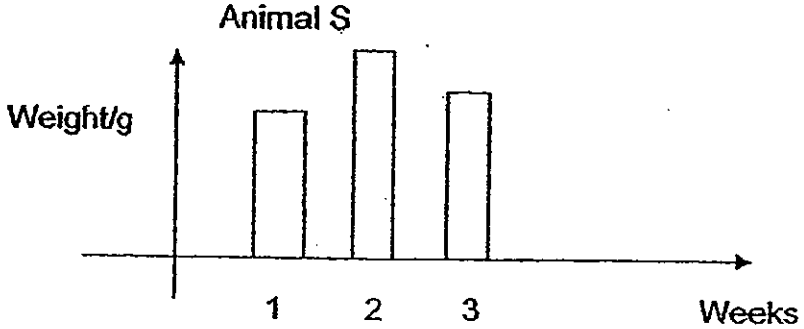
(2)



(3)



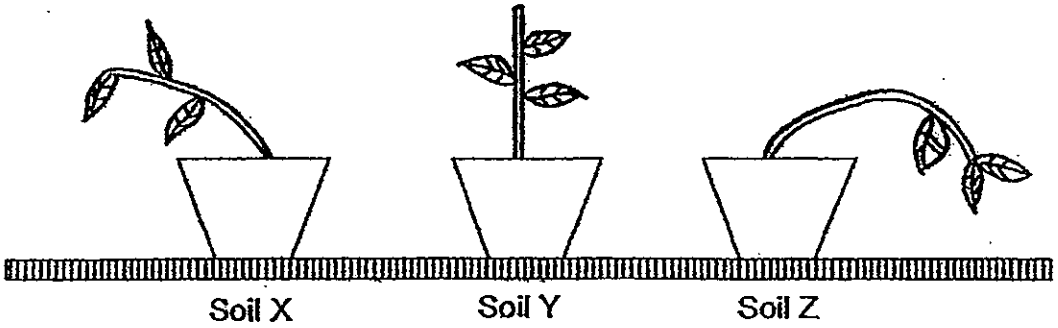
(4)



10. Which system in the human body works together with the digestive system by helping food to be absorbed into the body?

(1) skeletal system
(2) muscular system
(3) circulatory system
(4) respiratory system

11. Tom planted three Balsam plants in 3 pots with the same amount of Soil X, Soil Y and Soil Z. The pots were placed in the garden and he watered them with the same amount of water every day. The diagram below shows the plants after 2 weeks.



Tom was trying to find out if _____.

(1) sunlight will affect plant growth
(2) the type of soil will affect plant growth
(3) water is necessary for healthy plant growth
(4) the absence of fertilisers will affect plant growth

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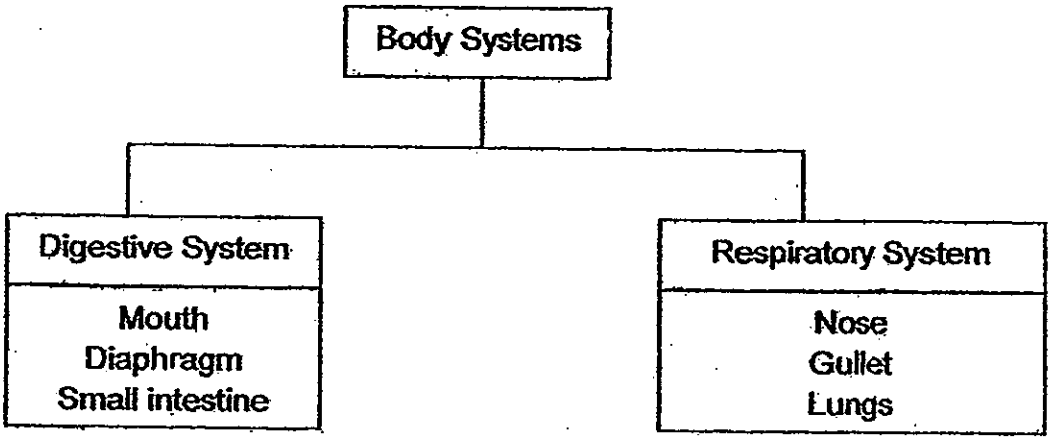
12. Study the classification table below.



Which of the following have been wrongly classified?

A Mouth
B Gullet
C Diaphragm
D Small intestine

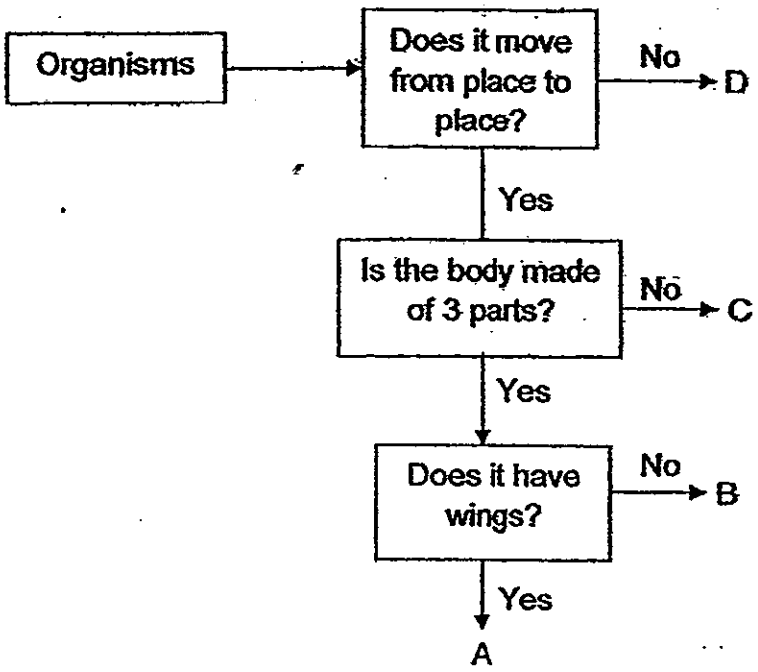
(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

13. What is/are the function(s) of the stem of a plant?

A The stem holds the plant upright.
B The stem produces food for the plant
C The stem has tubes that transport food from the roots to the rest of the plant.

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

14. The flowchart below shows how some organisms are classified.



Jack caught an organism shown in the diagram below.

Which group A, B, C or D does the above organism most likely belong to?

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

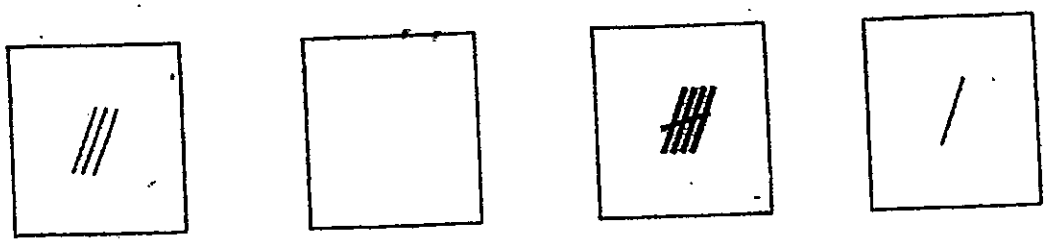
15. A hamburger-eating competition was conducted to find out who could eat the most number of hamburgers. In order to have a fair competition, what are 3 things that must be kept the same?

A Size of hamburger
B Type of hamburger
C Number of hamburgers
D Time taken for each contestant to eat

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

51

16. Samuel compared the hardness of four materials by scratching each material with material B. Scratch marks were left on the materials after the test as shown below.



A B C D

Arrange the materials in order, starting from the hardest material.

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

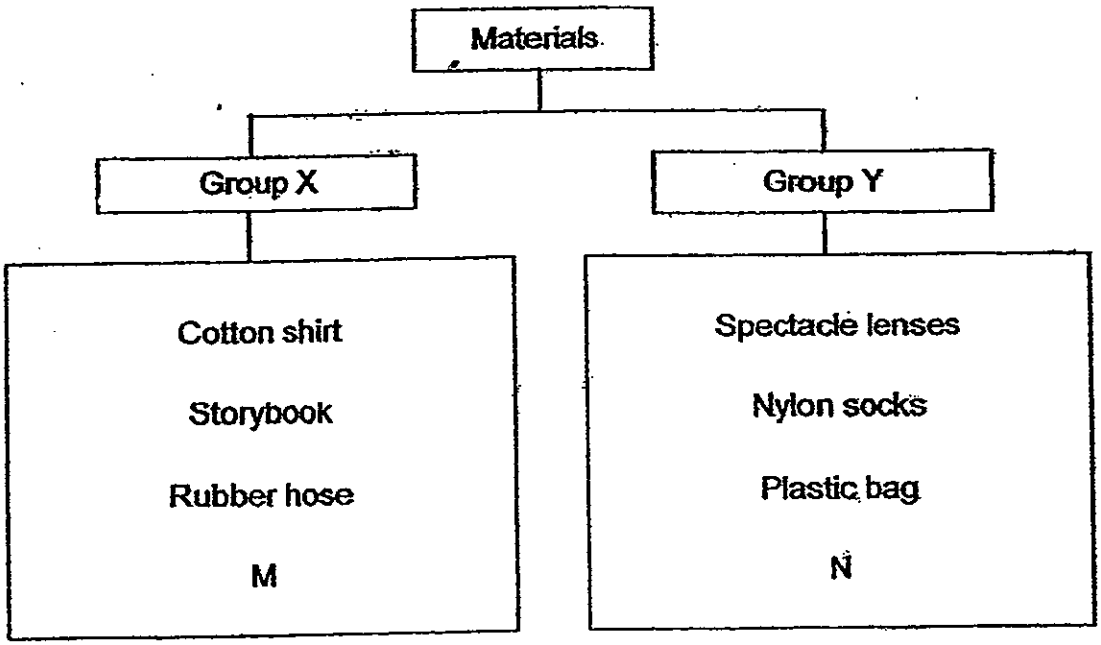
17. Mrs Lee put the same items into two carrier bags made of different materials.

Bag X Bag Y

What can you conclude from the diagram above?

(1) Bag Y is softer than Bag X.
(2) Bag Y is lighter than Bag X.
(3) Bag X is stronger than Bag Y.
(4) Bag X is more flexible than Bag Y.

18. Study the classification table below.



What can M and N most likely represent?

	Group X	Group Y
1)	Balloon	Leather belt
2)	Ceramic tile	Raincoat
3)	Wooden chair	Glass cup
4)	Drink can	Tissue paper

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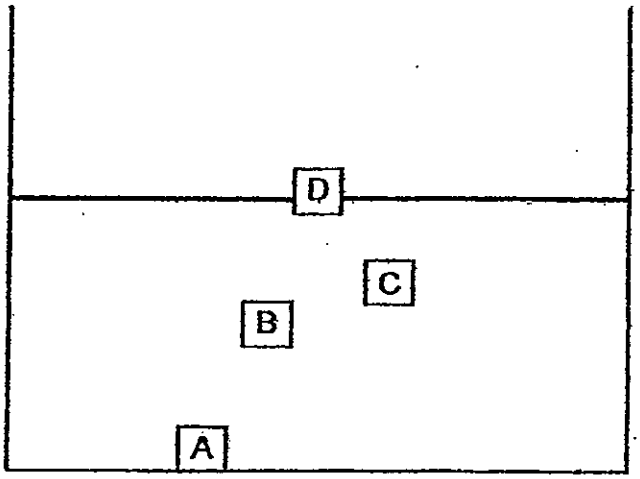
19. A block of metal, with a mass of 100g, and a block of styrofoam, with a mass of 5g, were put into a tank of water as shown below. Both blocks were of the same volume.

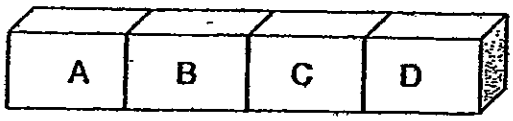


What letter most likely represents the block of metal and the block of styrofoam?

	Metal block	Styrofoam block
1)	A	D
2)	A	B
3)	D	C
4)	D	A

55

20. A bar magnet is divided into four equal parts as shown below. Daniel tested the magnetism of the magnet by bringing it near some paper clips.



Which of the following shows the correct number of paper clips each part of the magnet can attract?

A	B	C	D
4	10	12	3
10	8	6	4
10	3	4	12
10	10	12	12

21. Which of the following statements correctly describes sunlight?

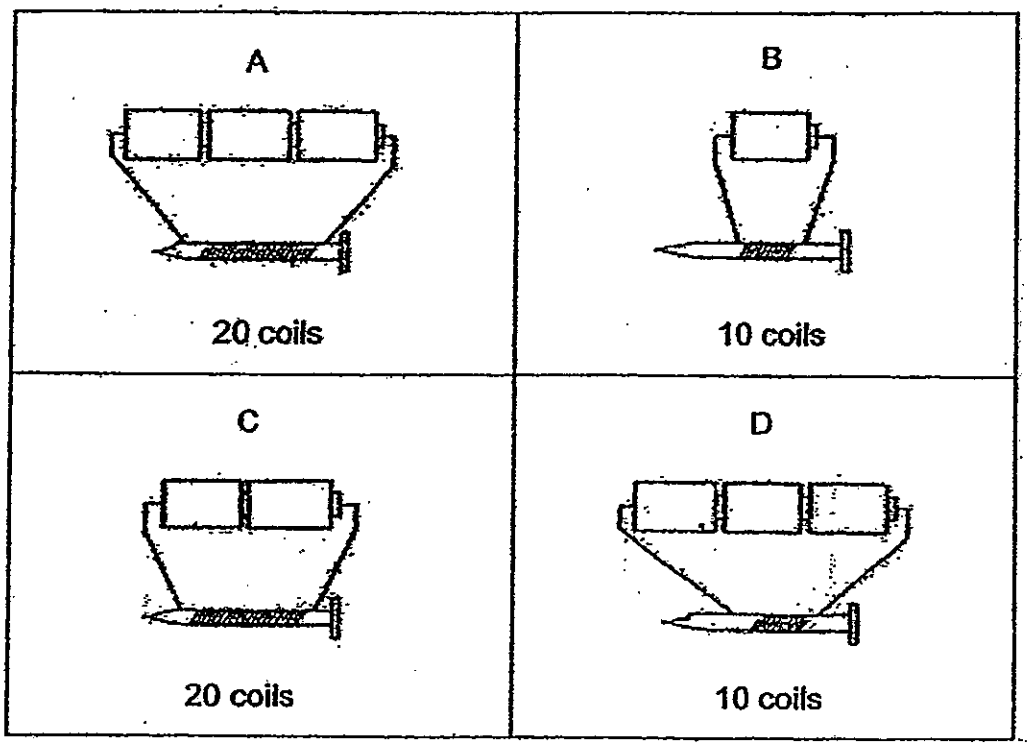
(1) Sunlight is matter. It has a definite shape.

(2) Sunlight is matter. It has mass and occupies space.

(3) Sunlight is not matter. It does not have mass and does not occupy space.

(4) Sunlight is not matter. It occupies space but does not have a definite shape.

22. Peter conducted an experiment to find out whether the number of turns of coil around an iron nail affected the strength of an electromagnet. He set up 4 arrangements as shown in the diagrams below.



Which 2 arrangements should he use to make it a fair test?

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

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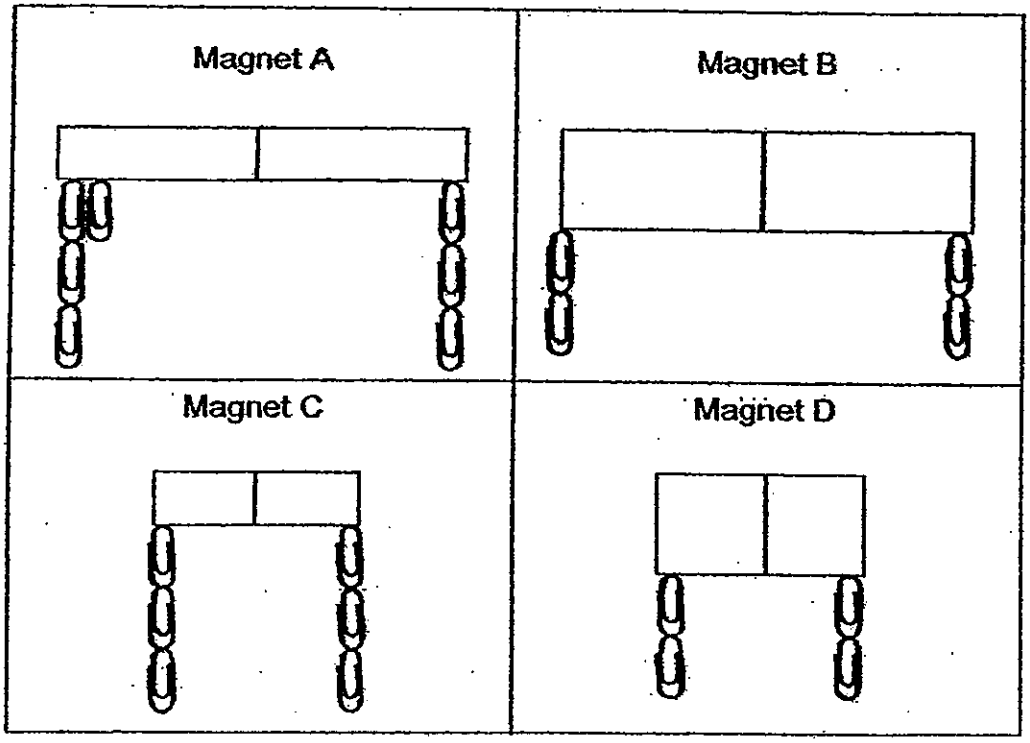
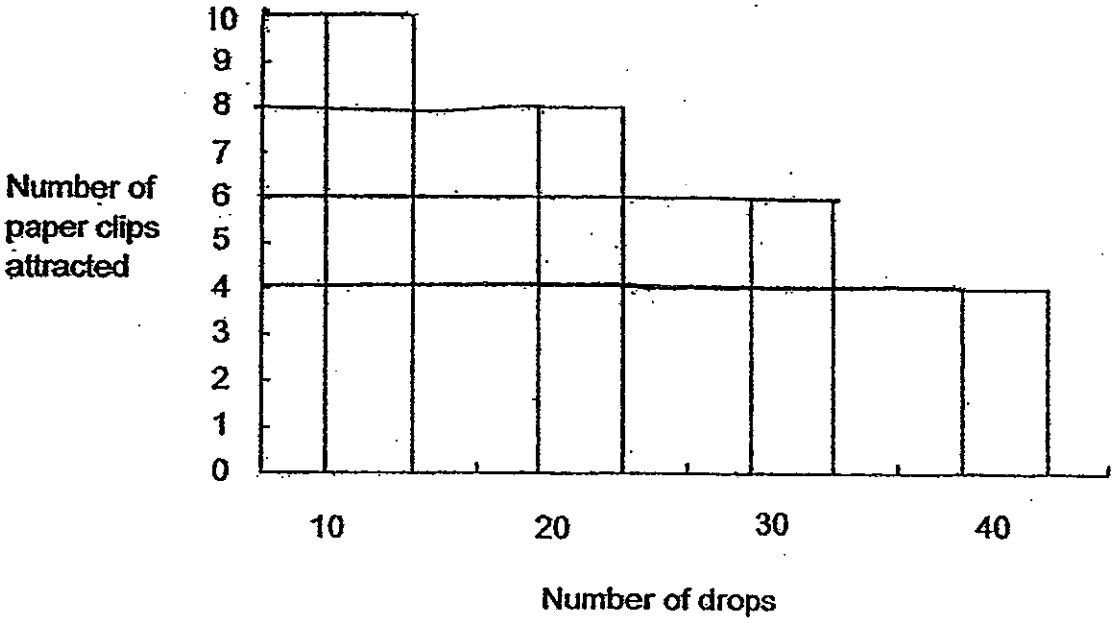
23. The diagram below shows the number of paperclips that were picked up by 4 different magnets.



What can be concluded from the diagram above?

(1) A bigger magnet has a stronger pull.
(2) A smaller magnet has a stronger pull.
(3) The strength of a magnet depends on its size.
(4) The strength of a magnet does not depend on its size.

24. Sean conducted an experiment to find out how the strength of a magnet is affected when it is dropped. He dropped the magnet 10 times and recorded the number of paper clips it attracted. He repeated the experiment 3 more times, dropping the magnet another 10 times each time. The graph below shows the results of his experiment.



From the graph above, which of the following statements is correct?

(1) After 40 drops, the magnet can no longer attract any paper clips.

(2) After 30 drops, the magnet could attract more than 7 paper clips.

(3) The greater the number of times the magnet is dropped, the more paper clips it can attract.

(4) The greater the number of times the magnet is dropped, the less paper clips it can attract.

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25. John conducted tests on 3 metal bars, X, Y and Z. He brought each metal bar near some paper clips. He also brought each metal bar near the two ends of a magnet. The table below shows the results of his tests.

Metal Bar	Does it attract paper clips?	Can it be attracted by a magnet?	Can it be repelled by a magnet?
X	√	√	√
Y		√	
Z			

Which of the following correctly describes metal bars X, Y and Z?

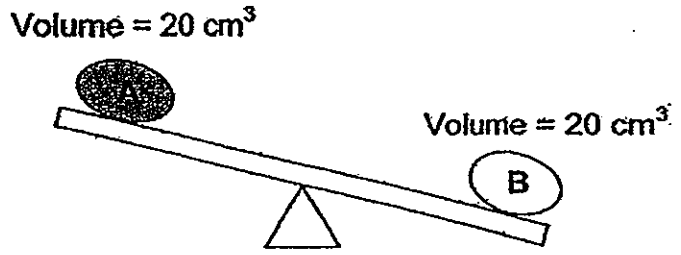
	X	Y	Z
1)	Magnetic material	Magnetic material	Non-magnetic material
2)	Magnet	Magnetic material	Non-magnetic material
3)	Magnet	Magnet	Magnet
4)	Magnetic material	Magnet	Non-magnetic material

26. Which of the following statement(s) about matter is/are correct?

A All matter has mass.
B All matter has a definite volume.
C Some matter does not occupy space
D Some matter does not have a definite shape.

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

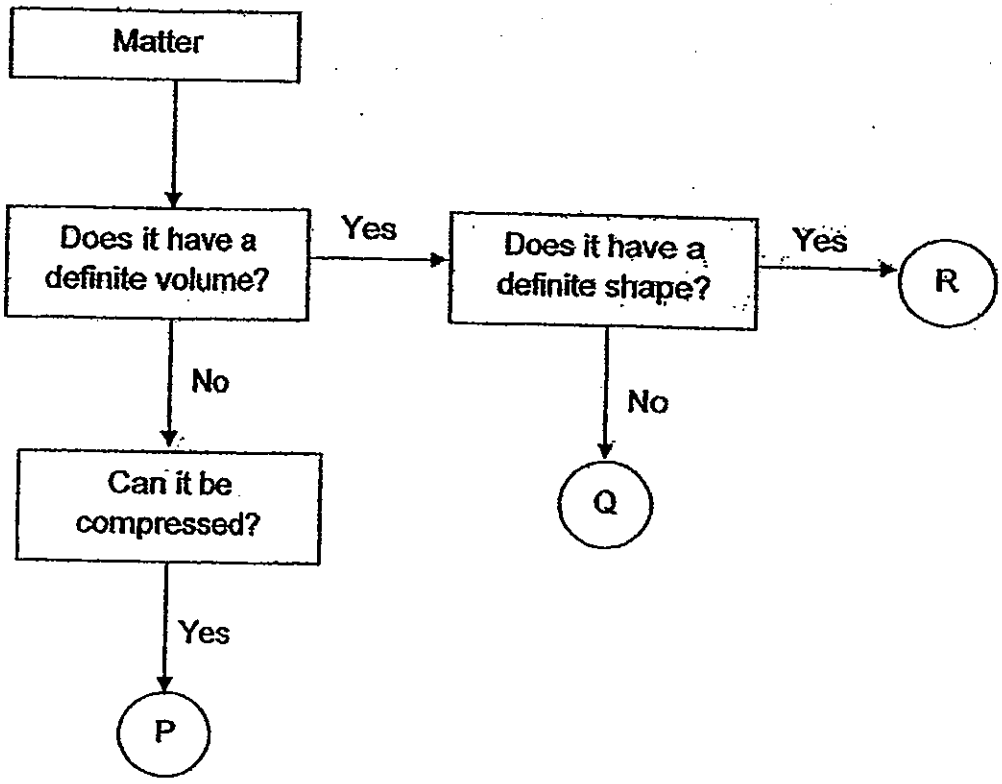
27. Look at objects A and B.



What can you conclude from the diagram above?

(1) Object A takes up more space than Object B.
(2) Objects A and B are made of different materials.
(3) Objects A and B take up different amount of space.
(4) Objects A and B have the same amount of matter in them.

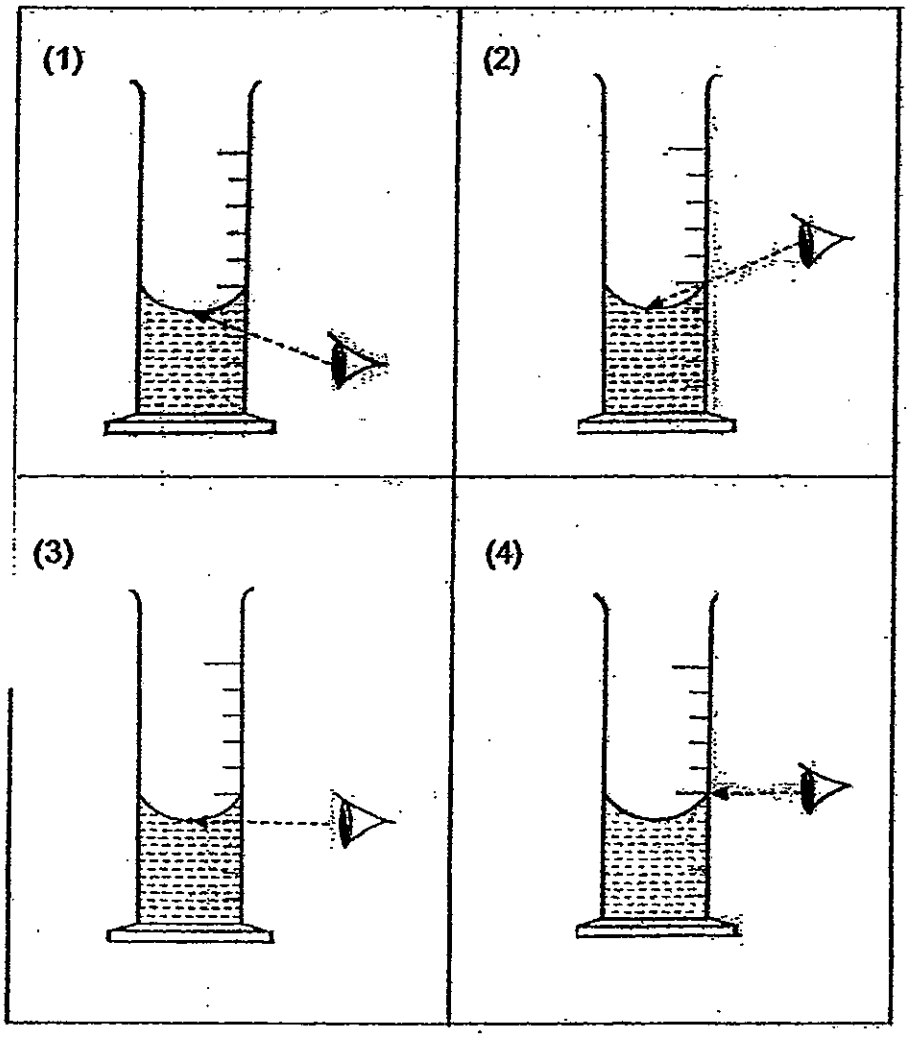
28. The flow chart below shows how some matter are classified.



What can P, Q and R most likely be?

	P	Q	R
1)	Milk	Ice	Air
2)	Cotton wool	Petrol	Oxygen
3)	Oxygen	Sand	Ice
4)	Carbon dioxide	Milk	Cotton Wool

29. Which of the following diagrams show the correct way of reading the volume of liquid in a measuring cylinder?



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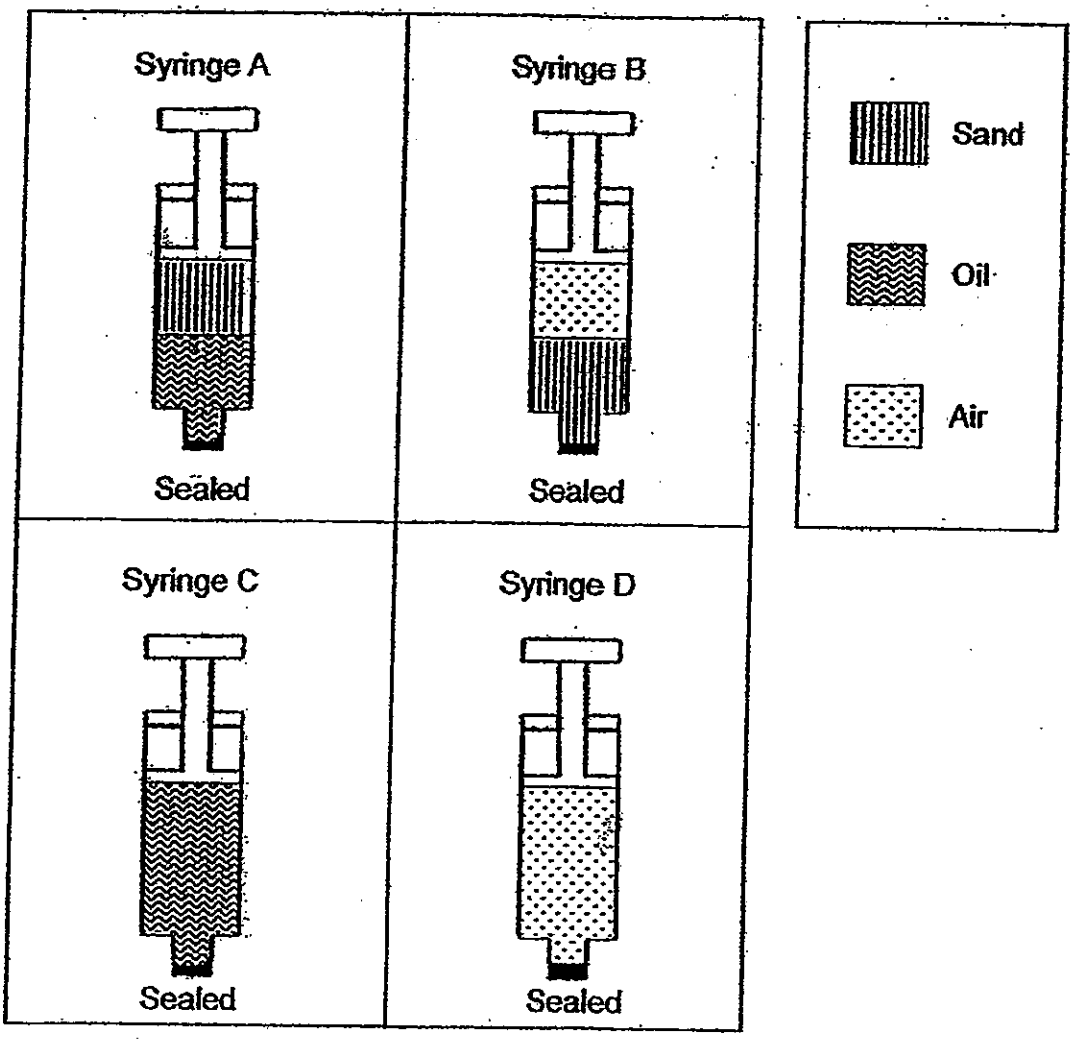
30. The diagram below show four syringes, A, B, C and D, with their nozzles sealed. They are filled with different substances.



Which of the syringe(s) can be pushed in further?

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

CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 1
2012

SCIENCE

Name: _____

Class : Primary 4 _____

Date : 15 May 2012

BOOKLET B

15 Questions
40 Marks

Total Time for Booklets A & B: 1 hour 30 minutes

Instructions to Candidates

Follow all instructions carefully.
Answer all questions.

Score	
Section A	60
Section B	40
Total	100

Parent's Signature:_____

Date: _____

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Section B: Open-Ended Questions (40 marks)

Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded is shown at the end of each question or part-question.

31. The diagram below shows two organisms.

(a) State one similarity in the life cycle of the butterfly and the frog. [1]

_____

_____

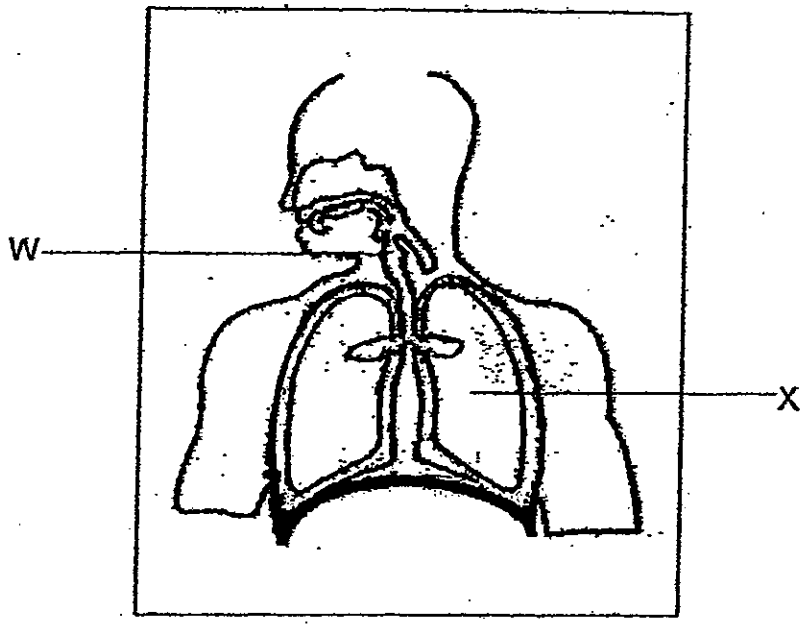
(b) State one difference in the life cycle of the butterfly and the frog. [1]

_____

_____

2

32. Name the parts of the organs in the figure shown below.



(a) Part W: _____ [1]

Part X: _____

(b) What is the function of the lungs of a human being? [1]

_____

_____

2

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33. A few children made a suggestion each on what could cause a plant growing in a pot to die eventually.

John Cutting off all the roots.
Rahim Cutting off all the fruits.
Abdul Cutting off all the flowers.

(a) Who has made a correct statement? [1]

_____

(b) Explain why cutting off the part(s) suggested in (a) will cause the plant to die. [2]

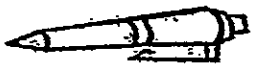
_____

_____

3

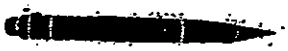
34. John found some pens and pencils as shown below.

A



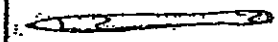
- It is a black ball point pen.
- It has a cap.

B



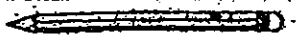
- It is a black 2B mechanical pencil.
- There is no eraser.

C



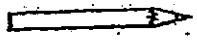
- It is a black ball point pen.
- It does not have a cap.

D



- It is a black 2B pencil.
- There is an eraser.

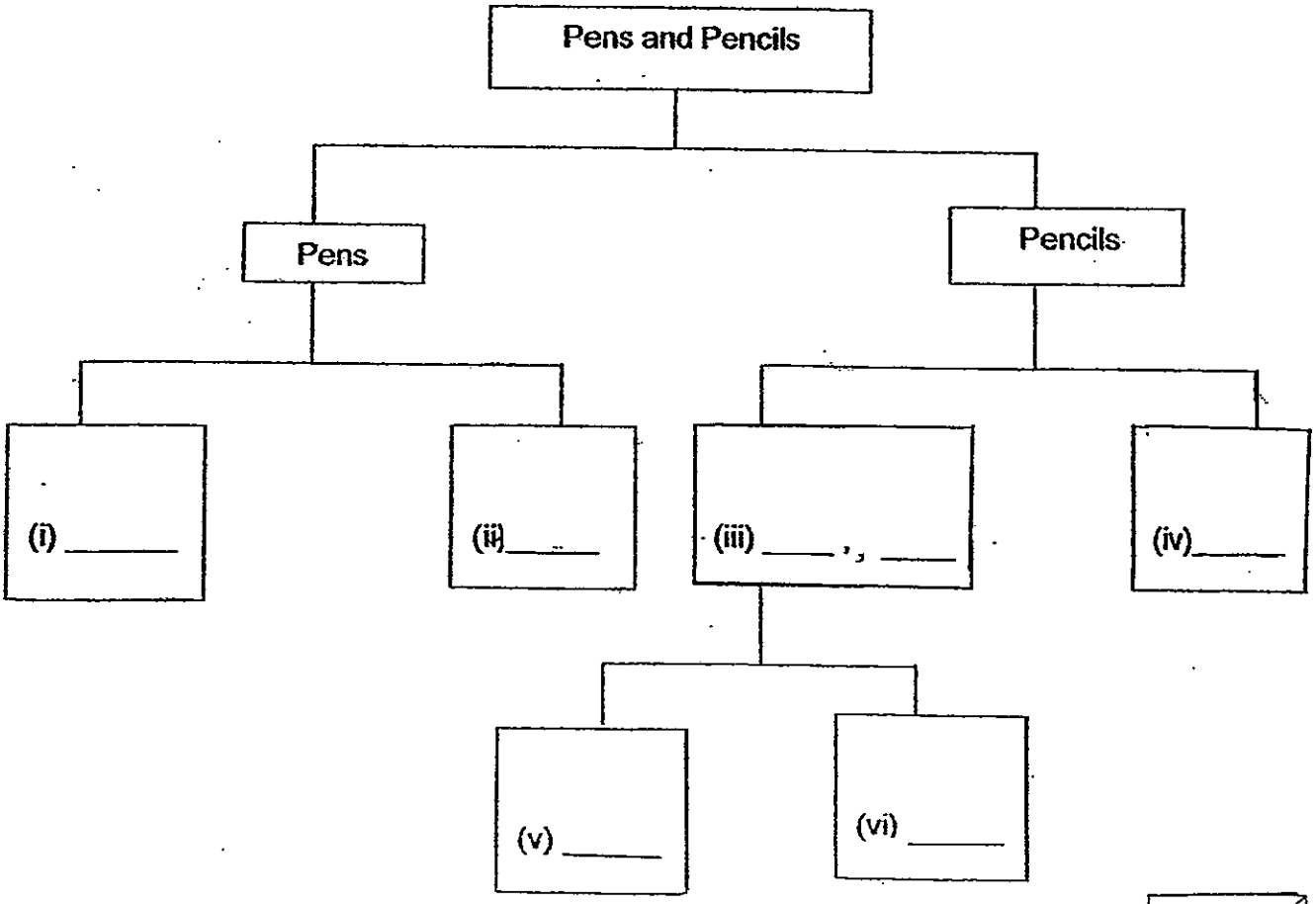
E



- It is a 2B black pencil.
- There is no eraser.

Classify all the above pens and pencils by writing A, B, C, D and E in the table below.

[3]



3

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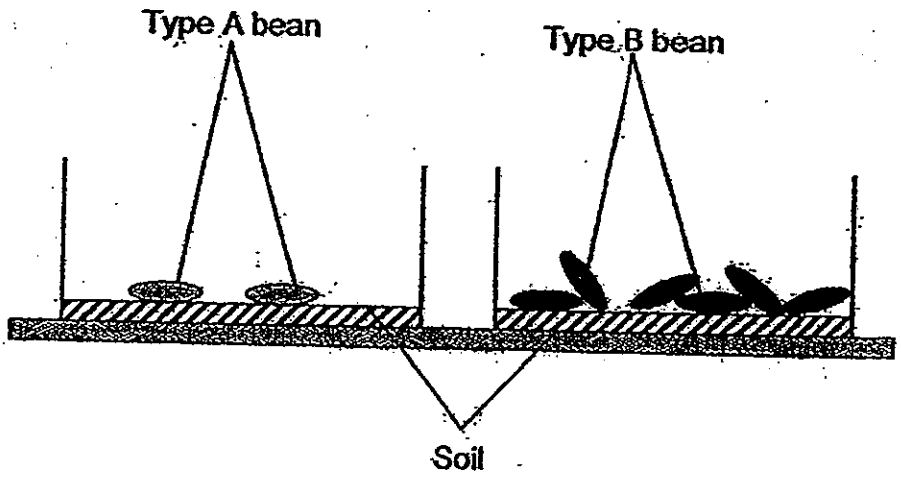
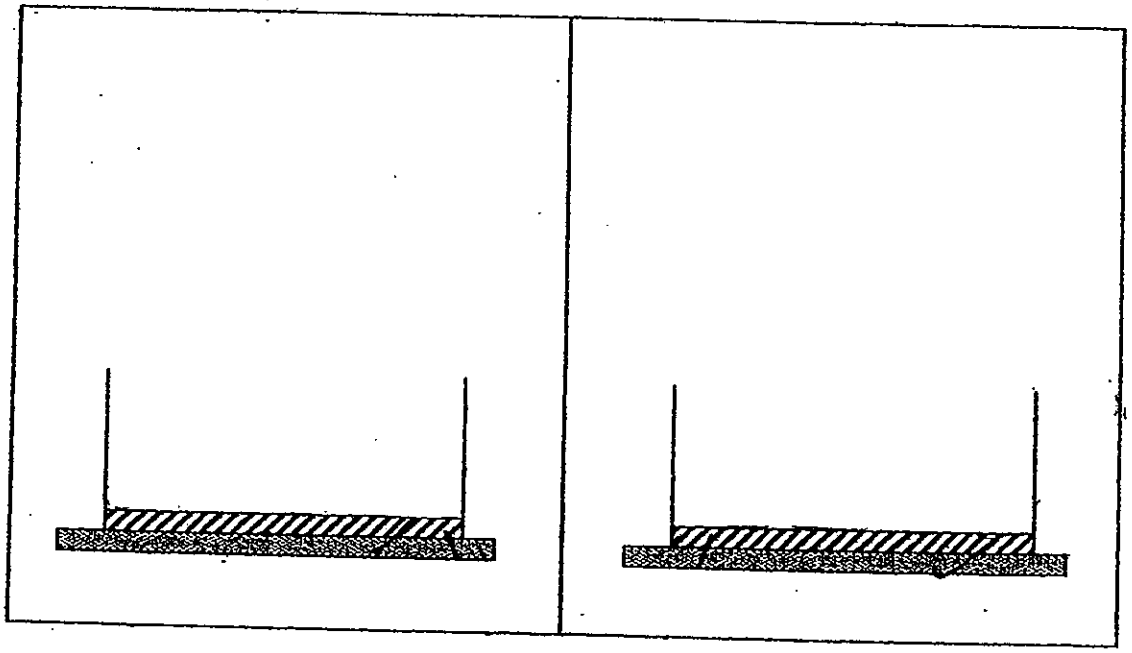
35. Ismail wanted to find out which type of beans would germinate and sprout the fastest. He chose two different types of beans and put them in containers as shown below.



Ismail's teacher said that it was not a fair test.

Draw and label clearly, what a fair test for the above experiment would be in the two boxes provided below. [2]



2

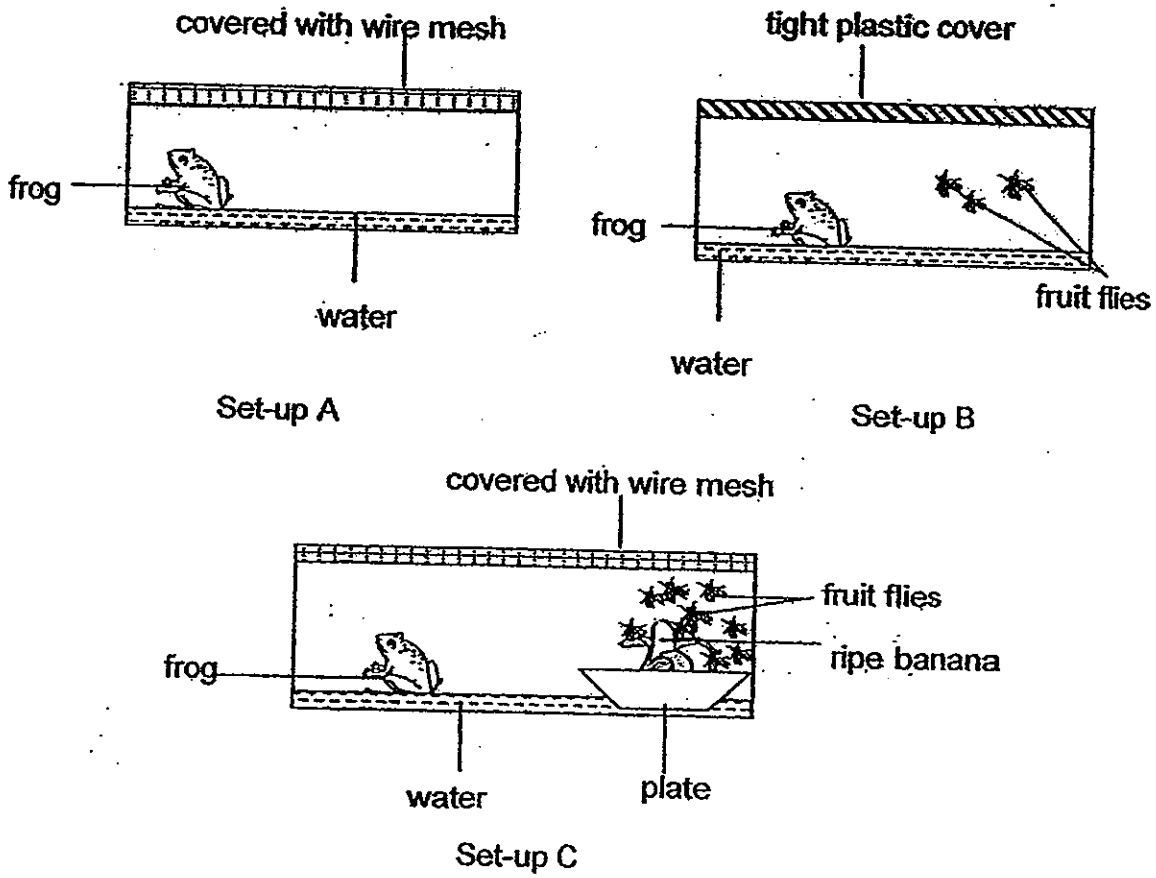
36. Some statements were made as shown in the table below. Put a tick (✓) next to the statement that is True, False or Not possible to tell. [2]

	Statements	True	False	Not Possible To Tell
(a)	More saliva is produced when we eat noodles than porridge.			
(b)	Our muscles and joints usually work together to enable us to move.			
(c)	Food is further digested at the large intestine before they are stored as waste.			
(d)	Our heart pumps blood to carry oxygen and carbon dioxide to and from our lungs.			

2

71

37. In the following experiment, Matthew placed 3 frogs in 3 similar containers with different covers as shown below. All the three set-ups have the same amount of water. Some fruit flies were placed only in the container in set-up B. In set-up C, when Matthew placed a ripe banana for the fruit flies to feed on, more fruit flies were attracted to the banana. After some time, the frogs in Set-up A and B died.



(a) Based on the above experiment, what other conditions does the frog need in order to live? [1]

_____

_____

(b) Which frog will live the longest? [1]

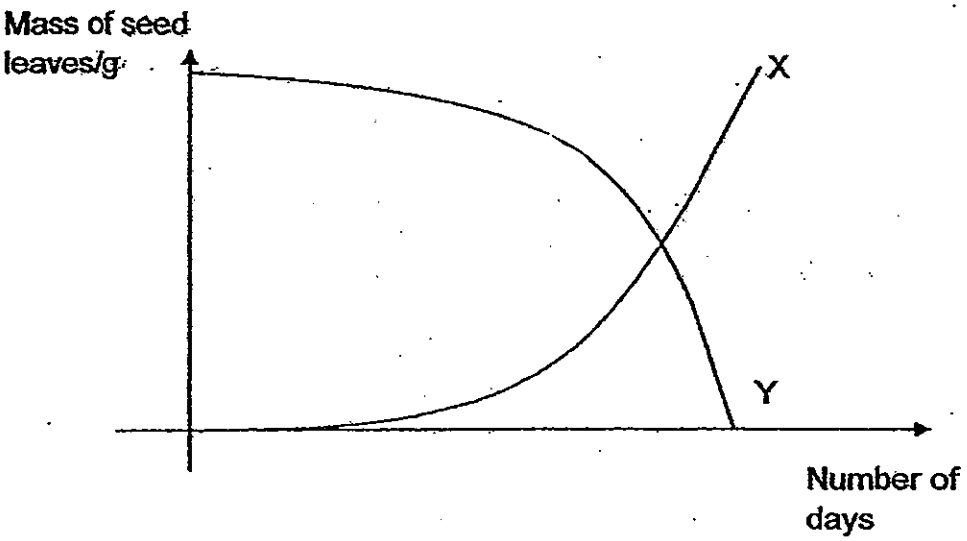
_____

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

_____

3

38. Some beans were placed in a container of moist cotton wool. The beans germinated after a few days and have grown taller over some time. The graph below shows the mass of the seed leaves over time.



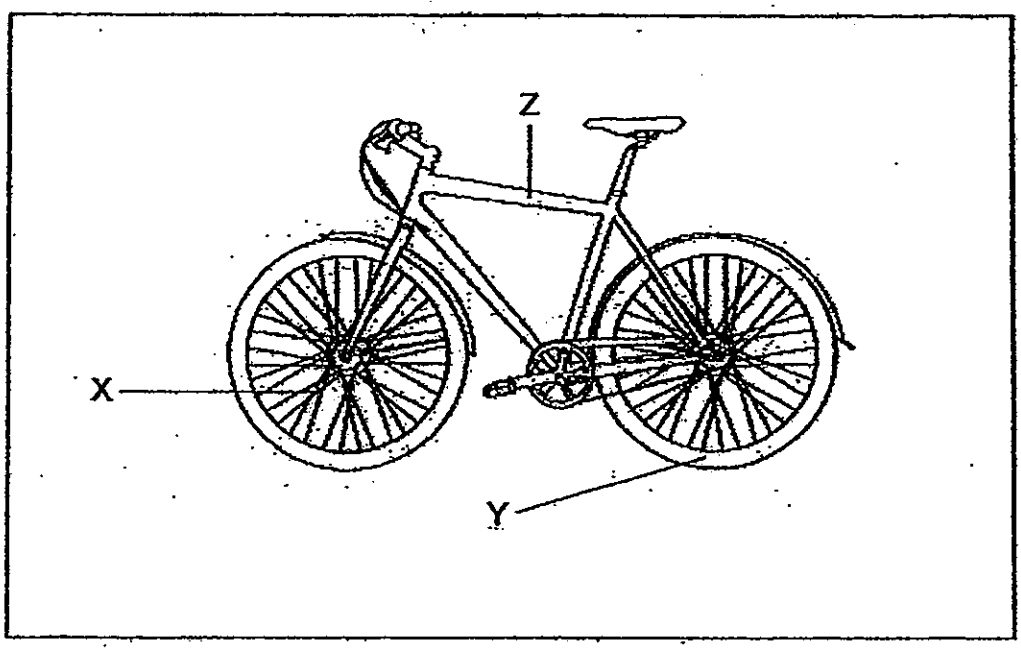
(a) Which line, X or Y, on the graph represents the change in the mass of the seed leaves over time? [1]

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

3

13

39. The picture below shows a bicycle.



(a) Identify a suitable material used to make each part below.

[2]

(i) Part X – _____

(ii) Part Y – _____

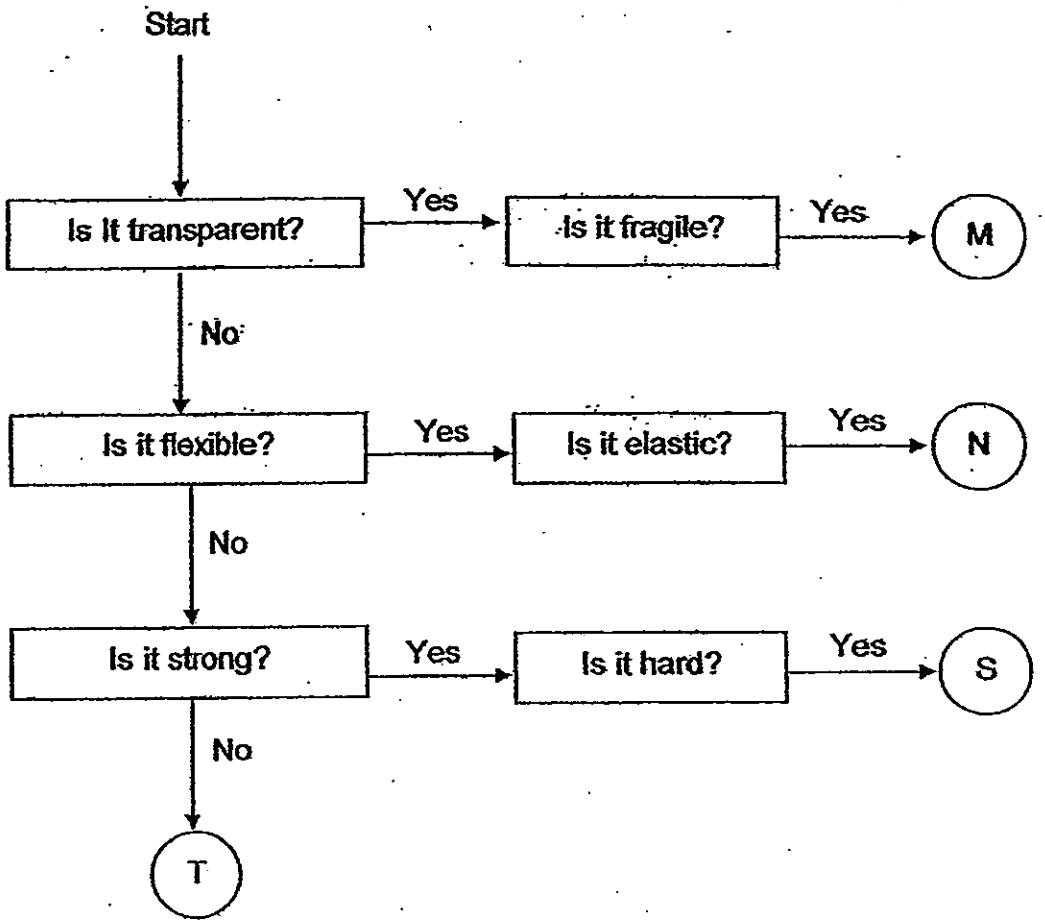
(b) Write down one property of Part Z that is important to serve its function.

[1]

_____

3

40. Study the flowchart below.



(a) From the flowchart above, what are the properties of Material M? [1]

_____

(b) Which material is most suitable for making a pair of fisherman boots? [1]

_____

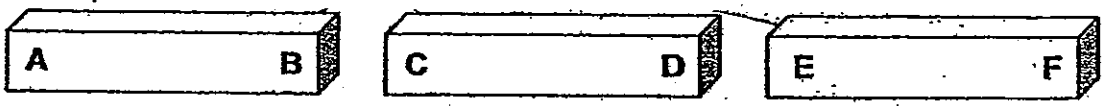
(c) Which material is most suitable for making the blade of a knife? [1]

_____

3

75

41. Grace has 3 objects - 2 magnets and 1 iron bar. She labelled the ends of the objects as shown in the diagram below.



She then brought the ends of the iron bars close to each other to find out how they interact. The results are shown in the table below.

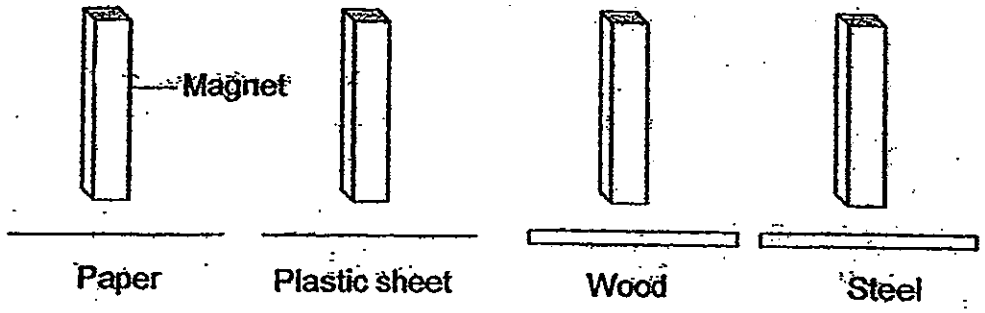
Ends brought close to each other	Attract	Repel
A and C	√	
B and D	√	
A and E		√
C and F	√	

Based on the observations above, what would happen to the above objects if the ends are brought close to each other? Record your answers in the table below with a tick. [2]

Ends brought close to each other	Attract	Repel
B and C		
B and F		
C and E		
D and F		

2

42. Timmy conducted an experiment. He placed a bar magnet over a piece of paper to see how many paper clips it could pick up. He used the same magnet and repeated the experiment with a piece of plastic, a piece of wood and a piece of steel. The results are shown in the table below.



Paper	Plastic	Wood	Steel
12	10	4	(a) _____

(a) How many paper clips could be attracted when the bar magnet is placed over the piece of steel? Write your answer in the table above. [1]

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

_____

(c) Name one variable that must be kept constant to ensure this experiment is a fair test. [1]

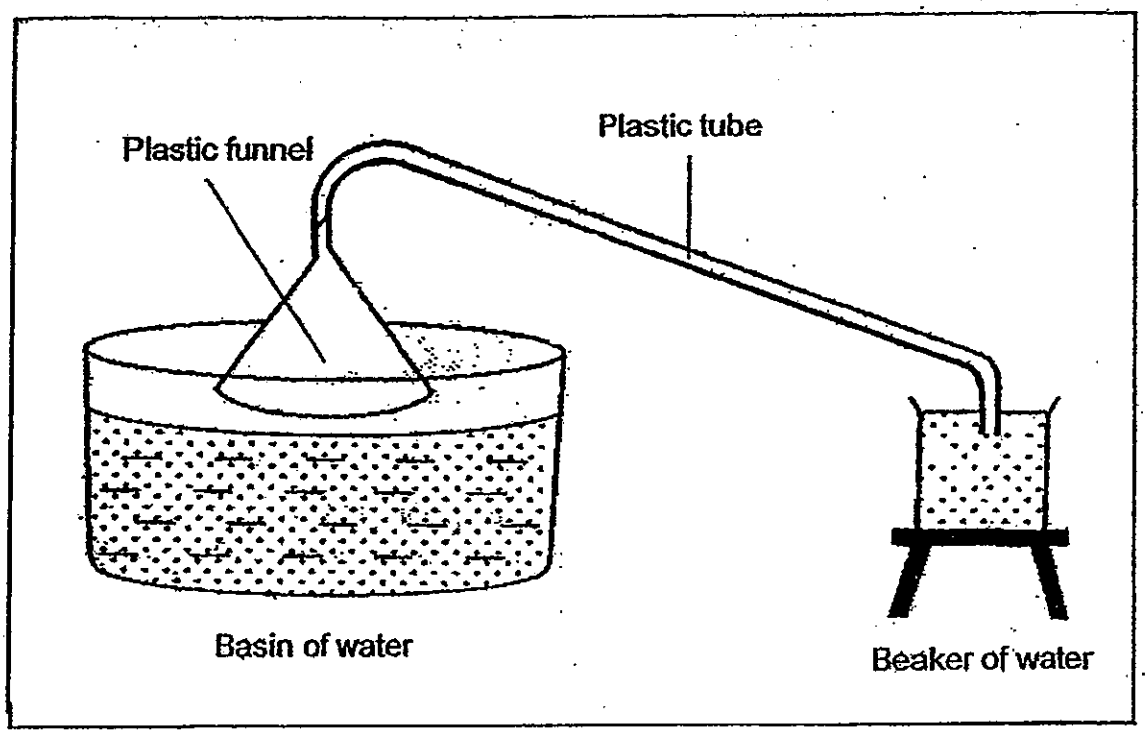
_____

_____

3

77

43. Look at the set-up below and answer the following questions.

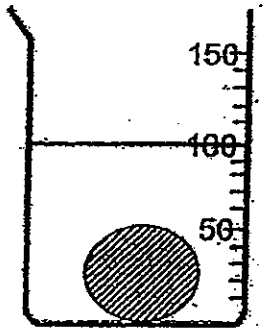


(a) What will be observed when the funnel is pushed down into the basin of water? [1]

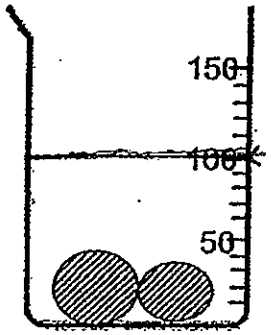
(b) Explain your answer in (a) [2]

3

44. Janet placed a ball of plasticine of mass 100g and a volume of 50 cm^3 into a beaker of water as shown below.



(a) Janet took out the plasticine and split it into two pieces. She then put the 2 pieces back into the beaker. Using a ruler, draw the water level in the beaker now. [1]



(b) Explain what has happened to the water level. [2]

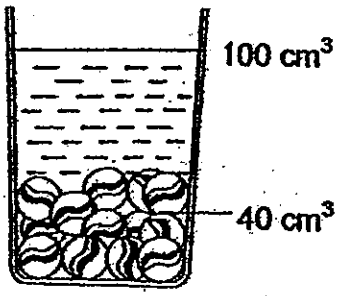
_____

_____

3

79

45. The diagram below shows a cylinder filled with some marbles of volume 40 cm^3. Jane then poured some water into the cylinder to a certain height. The volume of water and marble is now 100 cm^3.



(a) How much water did Jane pour into the cylinder? Tick the correct answer. [1]

☐ 60 cm^3 ☐ More than 60 cm^3 ☐ Less than 60 cm^3

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

_____

_____

- End of Paper -

3

ANSWER SHEET

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TERM : SA 1

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1 (4) 2 (1) 3 (2) 4 (4) 5 (3) 6 (2) 7 (3) 8 (2) 9 (2) 10 (3) 11 (2) 12 (2) 13 (1) 14 (1) 15 (2) 16 (3)

17 (3) 18 (3) 19 (1) 20 (3) 21 (3) 22 (2) 23 (4) 24 (4)25 (2) 26 (2) 27 (2) 28 (4) 29 (3) 30 (2)

31 They both lay eggs. / Butterfly has 4 stage life cycle, while the frog has 3 stage life cycle.

32 Windpipe / Lung / Lung helps exchange gases with the surrounding.

33 John / This is because there are no roots to absorb water and mineral salts from the ground, the plants will die off.

34 A / C / B, E / D / B / E

35

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TERM : SA 1

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36 TRUE / TRUE /FALSE / TRUE

37 Base on the above experiment, frog need air and food in order to live.

37 Set-Up C will live the longest.

37 This is because Set Up C have more food and air for the frog to live.

38 Y

38 As the seeding grows, the nutria on the seed will be used up, so the mass will reduce.

39 Metal / Rubber / Strong

40 Material M is Transparent and Fragile. / N / S

41 Attract / Repel / Attract / Attract

42 0 / Steel block the Magnetism from passing through, so that no paper clips are attracted.

42 Make sure the distance between the piece of material are the same.

43 air bubbles with come out from the other end of the plastic tube.

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TERM : SA 1

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43 This is because when plastic funnel place down on the basin of water, water enters into the funnel, pushes the air out of the space. This is because air occupy space.

44 100 / The water level has not changed, this is because the space of the plasticine remains the same.

45 More than 60cm^3 / There is space in between the marbles.