ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 1 (2015)
PRIMARY 4

SCIENCE

BOOKLET A

FRIDAY **8 MAY** **1 hour 30 minutes**

Name : _____ ( )

Class : P4 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 25 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 50.

The total time for Booklets A and B is 1 hour 30 minutes.

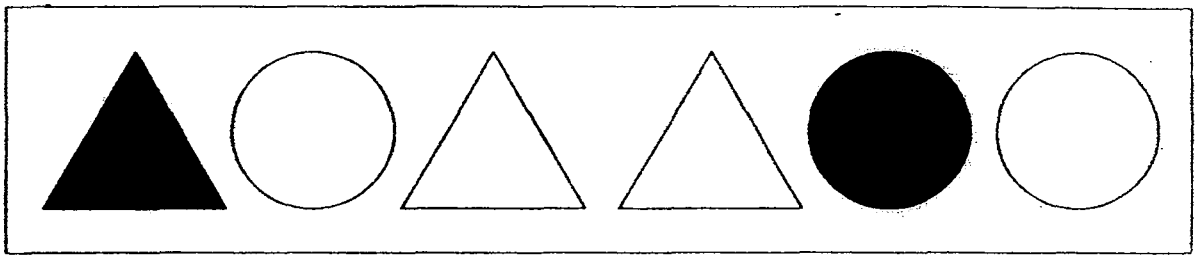
This question paper consists of 19 printed pages (inclusive of cover page).

Booklet A (50 marks)

For each question from 1 to 25, 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.
(25 x 2 marks)

---

1. Study the things in the box below.

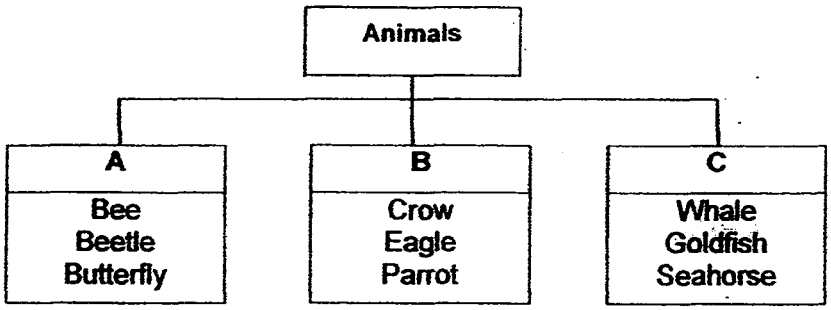


Which of the following classifications can be used to classify the things into **two** groups?

A According to size
B According to shape
C According to colour

(1) B only
(2) A and C only
(3) B and C only
(4) All of the above

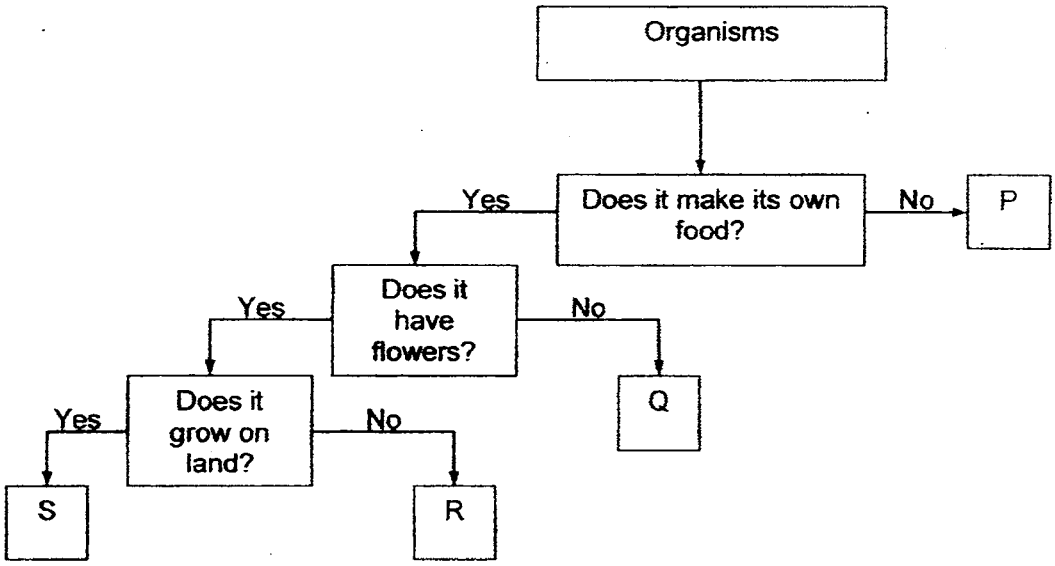
2. Study the classification below.



Which of the animals above is **incorrectly** classified?

(1) Crow
(2) Whale
(3) Beetle
(4) Seahorse

3. The chart below shows how some organisms are classified.



Which of the following best represent P, Q, R and S as shown in the chart above?

	P	Q	R	S
(1)	papaya plant	ladder fern	water hyacinth	sunflower
(2)	mushroom	banana	water lily	balsam
(3)	bracket fungus	moss	balsam	water lily
(4)	toadstool	staghorn fern	lotus	ixora

4. Some pupils made the following statements on fungi and bacteria.

Pupil A: Both fungi and bacteria can be useful to humans.
Pupil B: Both fungi and bacteria do not make their own food.
Pupil C: All fungi and bacteria cannot be seen with our naked eyes.
Pupil D: Fungi feed on dead and living organisms but bacteria feed on living organisms.

Who made the correct statements on fungi and bacteria?

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

5. Mike carried out an experiment on 4 different types of materials Q, R, S and T. He placed a few drops of water on each material and observed the material.

Material	Observation
Q	The water slowly seeped into the material.
R	The water flowed off the sides of the material.
S	The water was absorbed into the material immediately.
T	The water was absorbed into the material after 5 minutes.

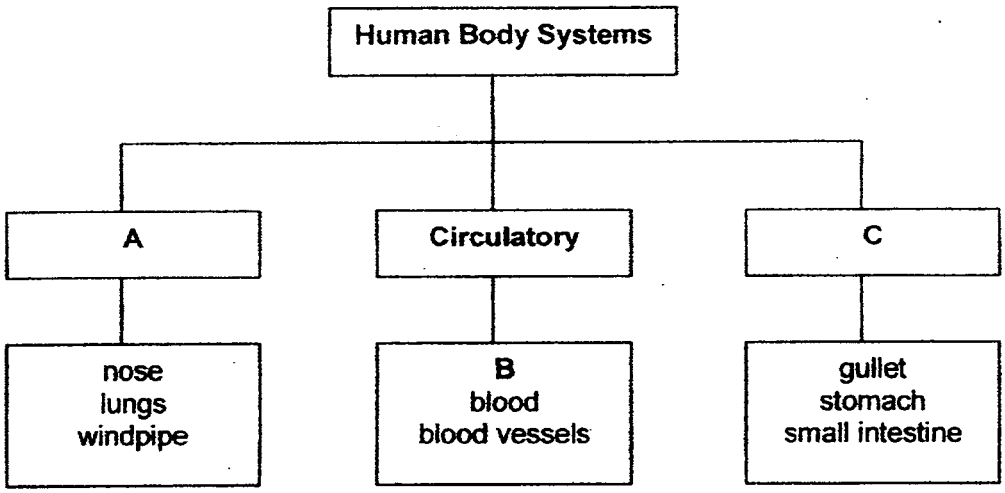
Based on the information above, which of the 4 materials, Q, R, S and T is most suitable to make a raincoat?

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

6. Which two body systems work together to supply oxygen to the body?

(1) Muscular and Skeletal System
(2) Digestive and Circulatory System
(3) Digestive and Respiratory System
(4) Respiratory and Circulatory System

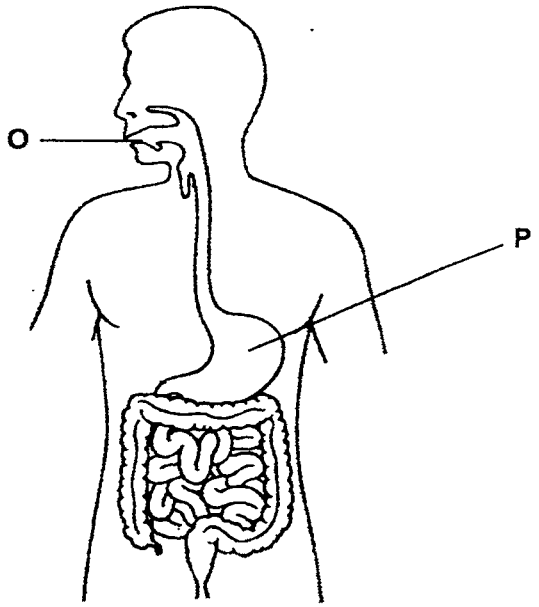
7. Study the classification table below.



Which one of the following sets matches A, B and C?

	A	B	C
(1)	respiratory system	heart	digestive system
(2)	digestive system	brain	muscular system
(3)	skeletal system	heart	muscular system
(4)	respiratory system	brain	digestive system

8. Study the diagram below.



Which of the following correctly describes the functions of parts O and P of the human digestive system?

	Part O	Part P
(1)	Saliva softens and digests the food.	Digested food is absorbed into the blood.
(2)	Food is digested further and mixed with other digestive juices.	Digestion begins here.
(3)	Digested food is absorbed into the blood.	Chewed food is delivered to other parts of the digestive system.
(4)	Food is chewed and ground into smaller pieces.	Food is digested further and mixed with other digestive juices.

9. Aloysius cut off part(s) of a potted plant. He left the plant near the window and watered it daily. One week later, the potted plant died. Which part(s) of the plant did Aloysius cut?

A Fruits

B Leaves

C Flowers

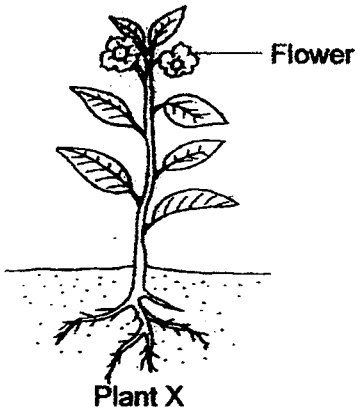
(1) A only

(2) B only

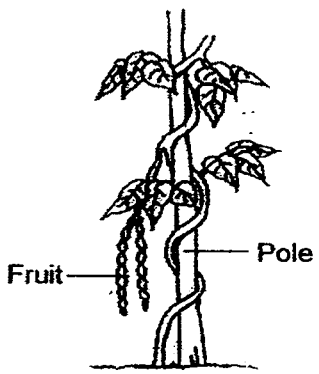
(3) C only

(4) A and C

10. The diagram below shows two plants.



Plant X



Plant Y

Based on the information given in the diagrams above, which of the following statement(s) is/are true for both plants?

A They have weak stems.

B They are flowering plants.

C They make their own food.

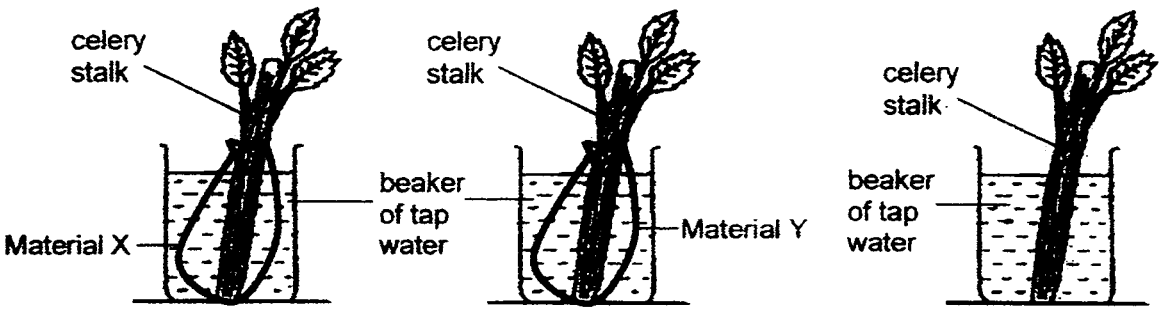
(1) B only

(2) A and C only

(3) B and C only

(4) A, B and C

11. Amy set up the experiment as shown below.



Set-up A Set-up B Set-up C

The bases of the celery stalks in set-ups A and B were wrapped with 2 different materials X and Y. Three days later, Amy recorded her observations of the celery stalk in the table below.

	Set-up A	**Set-up B**	**Set-up C**
Observation	Leaves are green and firm	Leaves are yellowish and droopy	Leaves are green and firm.

Which of the following statements show the correct conclusion of Amy's experiment?

A Water can pass through material X.

B More water passed through material Y than material X.

C The leaves of the celery stalk in set-up B is likely to be firm if the base of the celery stalk was not wrapped with material Y.

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

12. John made some observations of the life cycles of a butterfly and a mosquito. He recorded his observation in the table below. He placed a tick (✓) to represent the characteristic that the insect has and a cross (X) to represent the characteristic that the insect does not have.

		Butterfly	**Mosquito**
A	4 stages in life cycle	✓	X
B	Lays eggs in water	✓	✓
C	The young resembles the adult	X	X
D	It is a pest during the larval stage	✓	X

Which of his observations did John record correctly?

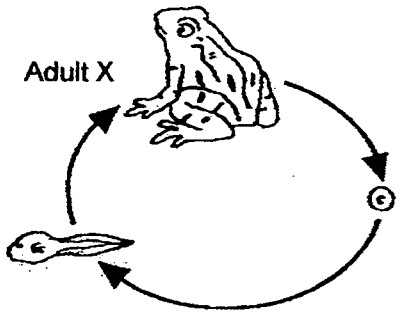
(1) A and B only

(2) A and D only

(3) B and C only

(4) C and D only

13. The diagram below shows the life cycle of animal X.



Based on the diagram above, which of the following statements is **not true** about animal X?

A It gives birth to its young alive.

B It has three stages in its life cycle.

C Its young closely resembles its parent.

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

14. Ahmad found a young of animal R and observed it over a few days. He recorded his observations in the table below.

It moults.
It eats a lot.
It resembles its adult.
It does not have wings.
It moves around quickly.

Which one of the following animals could the young of animal R most likely be?

(1) Housefly

(2) Mosquito

(3) Cockroach

(4) Mealworm Beetle

15. Alvin prepared four set-ups, A, B, C and D, using similar types of seeds with different conditions as shown in the table below.

Set- Up	Type of cotton wool	Location
A	moist	in the freezer
B	moist	near a window
C	dry	near a window
D	dry	in the freezer

Which set-ups should Alvin use if he wants to test if seeds need warmth to germinate?

(1) A and B

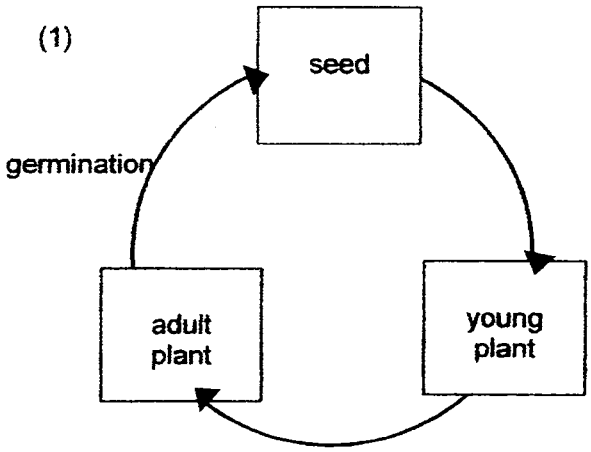
(2) A and C

(3) A and D

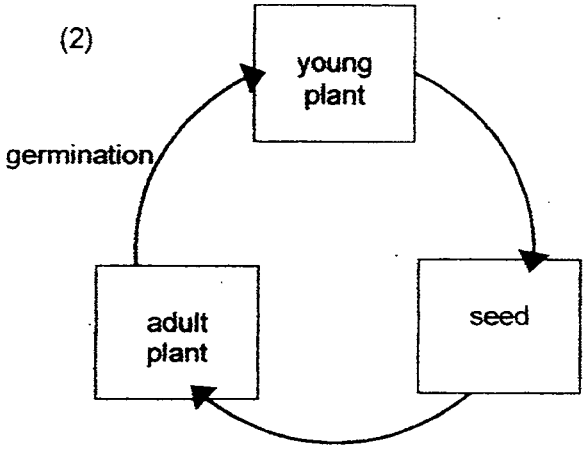
(4) B and C

16. Which of the following shows the correct order of the stages and process in the life cycle of a flowering plant?

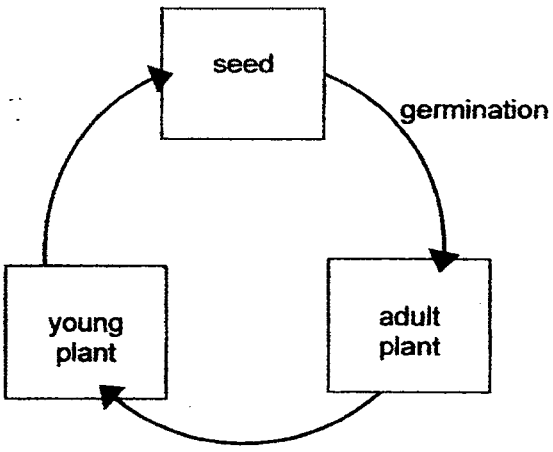
(1)



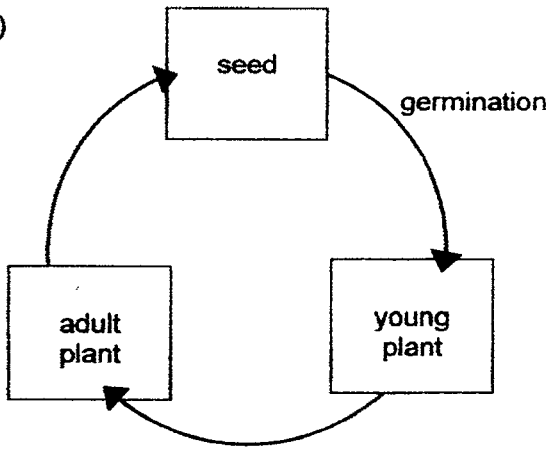
(2)



(3)



(4)



17. Susan observed some green bean seeds germinate and recorded her observations in the table shown below.

Day	Observation
2	The seeds swell
3	The ~~seed~~ seed coat breaks
4	The roots start to appear
7	The shoots start to appear
14	The shriveled seed leaves have dropped off

From which day onwards will the seedling most likely be able to start to make its own food?

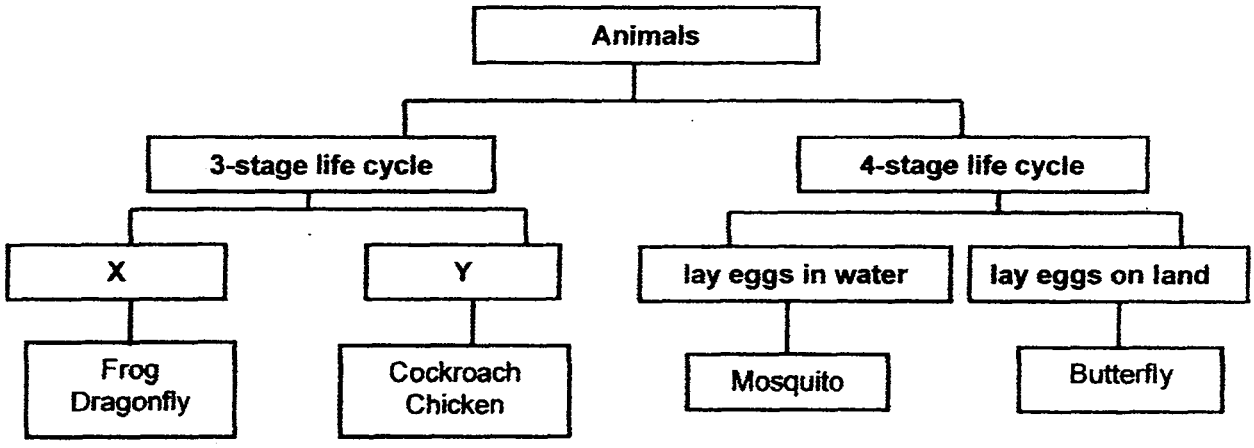
(1) Day 2

(2) Day 4

(3) Day 7

(4) Day 10

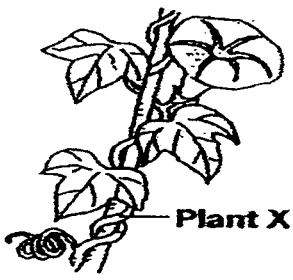
18. Study the classification table below.



Give a suitable sub-heading for **X** and **Y**.

	X	Y
(1)	Lay eggs	Do not lay eggs
(2)	Can fly	Cannot fly
(3)	Breathe through gills	Breathe through lungs
(4)	Spends some parts of its life cycle in water	Spends all its life cycle on land

19. Monica found Plant X, growing in her school garden. She recorded some of her observations below.

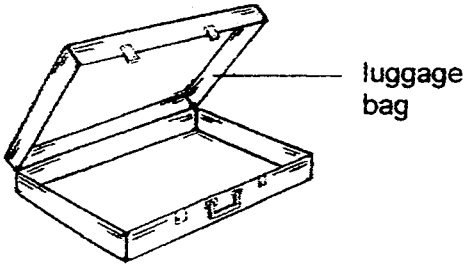


P The plant has a weak stem.
Q The plant cannot bear fruits.
R The plant grows towards sunlight.
S The stem of the plant holds the plant firmly to the ground.

Which of her observations are correct?

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

20. Mr Raju wanted to pack eight sets of clothing into his luggage bag. However, he found that he can only put in five sets of clothing inside the bag.

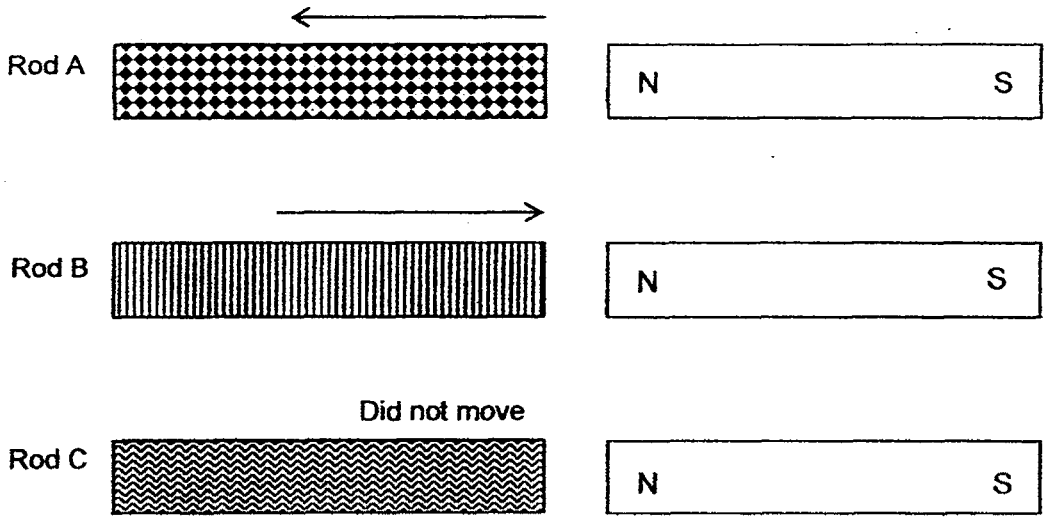


Which of the following best explains why was he unable to pack the remaining three sets of clothing?

A The clothes are too colorful.
B The clothes cannot be compressed.
C The clothes do not have a definite volume.
D The clothes take up space in the luggage bag.

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

21. Wilfred placed three rods on the floor. When he placed a magnet next to the three rods, Rod A and B moved in the direction of the arrow shown in the diagram below. Rod C did not move.



Which of the following rods is/are definitely magnets?

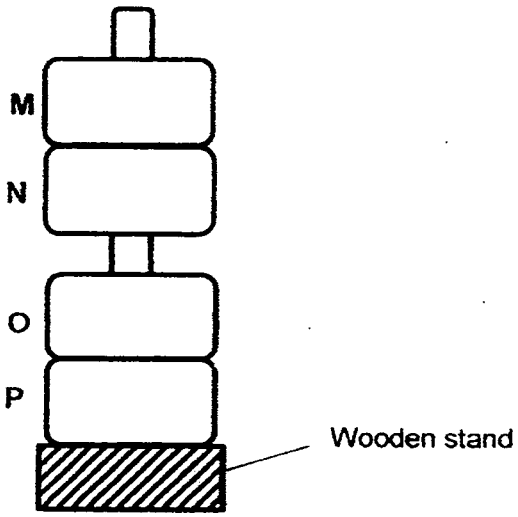
(1) Rod A only

(2) Rod B only

(3) Rod A and Rod C

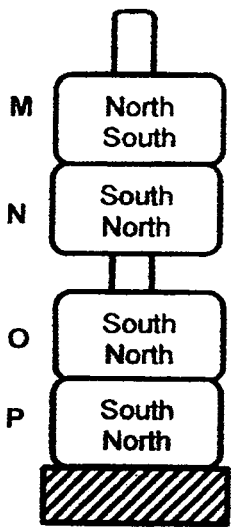
(4) Rod B and Rod C

22. The set-up below show 4 ring magnets M, N, O and P placed on a wooden stand

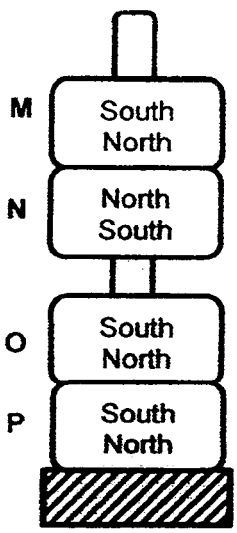


Which of the following shows the correct arrangements of the poles of the magnets?

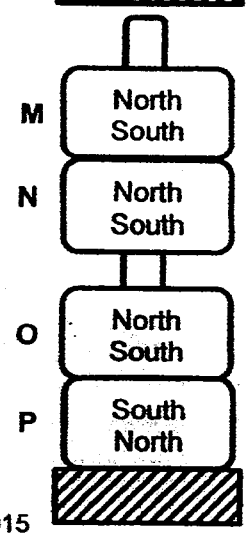
(1)



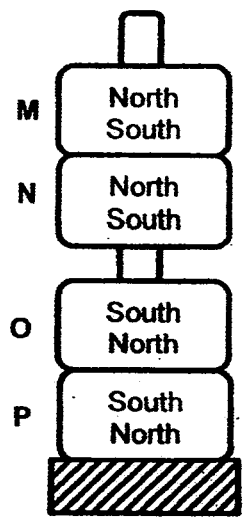
(2)



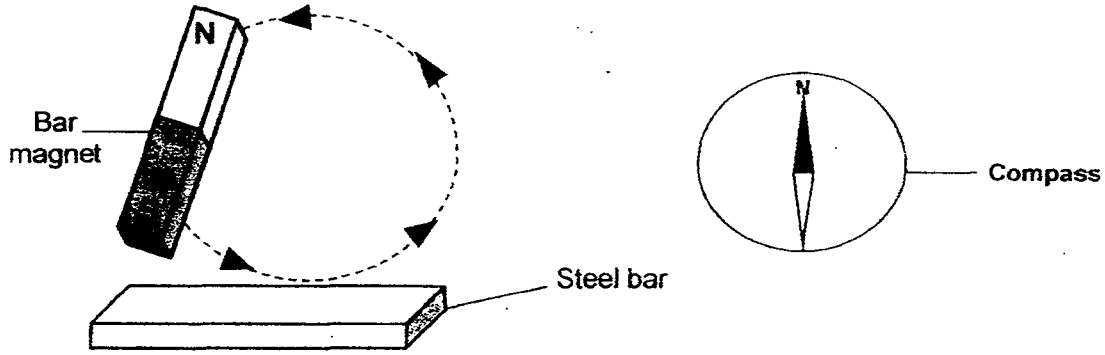
(3)



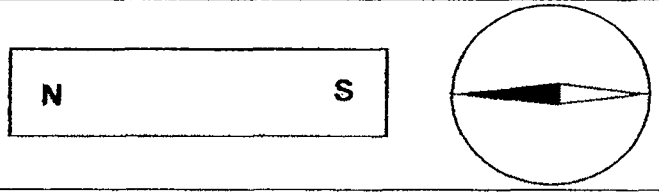
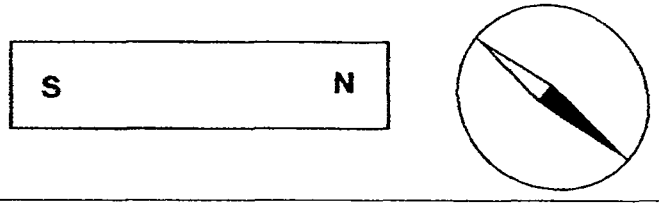
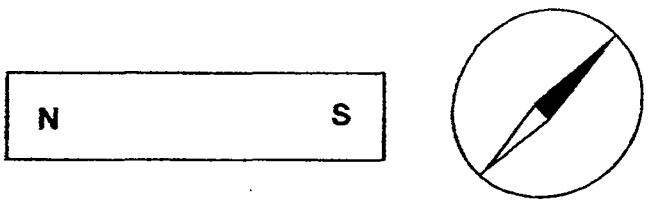
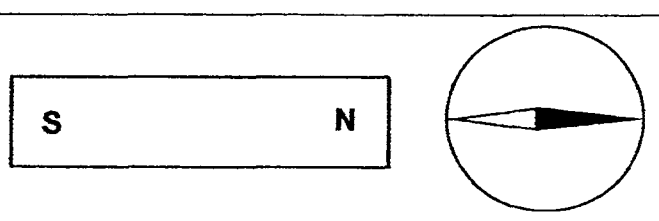
(4)



23. Lizzy used a bar magnet to repeatedly stroke a steel bar as shown below.



She then placed the steel bar next to a compass. Which of the following arrangement is a possible observation?

	Set-up
A	
B	
C	
D	

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

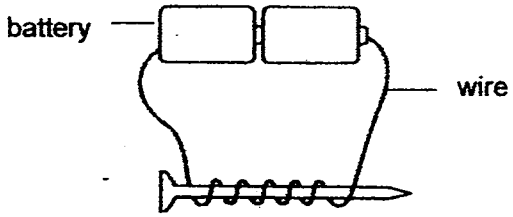
24. Dora conducted an experiment to find out if the number of coils around an iron nail affects the strength of the electromagnet. She recorded her results in the table below.

Number of coils	Number of iron paper clips attracted to the electromagnet
3	7
4	10
5	13
6	16

How does the number of coils around the iron nail affect the strength of the electromagnet?

	Number of coils	Strength of the electromagnet
(1)	Increase	Stronger
(2)	Decrease	Stronger
(3)	Increase	Weaker
(4)	Decrease	Remains the same

25. Darryl wanted to find out whether the number of batteries affects the strength of an electromagnet.



Which of the following variables should he change to ensure a fair experiment?

(1) Size of the nail

(2) Size of the batteries

(3) Number of batteries used

(4) Number of coils around the nail

End of Booklet A

ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 1 (2015)
PRIMARY 4

SCIENCE

BOOKLET B

FRIDAY **8 MAY** **1 hour 30 minutes**

Name : _____ **(** **)**

Class : P4 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 14 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [ ] at the end of each question or part question.

The total marks for this booklet is 40.

The total time for Booklets A and B is 1 hour 30 minutes.

This question paper consists of 17 printed pages (inclusive of cover page).

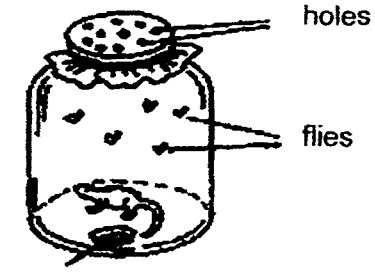
BOOKLET A	**/ 50**
BOOKLET B	**/ 40**
TOTAL	**/ 90**
Parent's signature/ Date:	

Booklet B (40 marks)

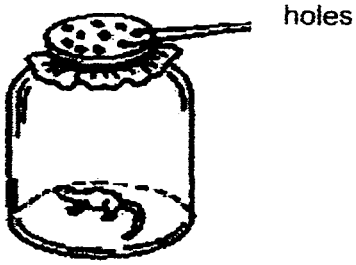
For questions 26 to 39, write your answers in this booklet.
The number of marks available is shown in the brackets [ ] at the end of each question or part question.

---

26. Lucas set up an experiment as shown below to find out whether living things need water to survive. He used similar bottles with holes and lizards.



Set-up A



Set-up B

(a) His father saw the set-ups and said that the experiment was not a fair test. Explain why. [1]

_____

_____

_____

(b) Predict what would happen to the lizards in set-up A and set-up B after 1 week? [1]

Set-up A: _____

Set-up B: _____

(c) What should Lucas add to set-up B to make the experiment a fair test? [1]

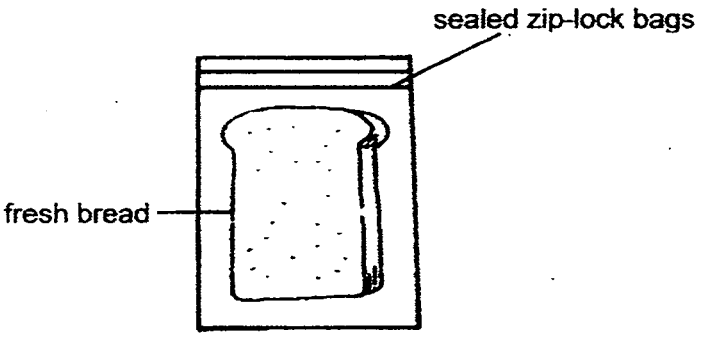
_____

_____

(Go on to the next page)

SCORE	

27. Sharon placed a slice of fresh bread each into 3 zip-lock bags, A, B and C, and placed each bag at different locations in her house for 2 weeks.



Bag A: Placed at the window sill.

Bag B: Placed in the refrigerator.

Bag C: Placed in the cupboard.

(a) After 2 weeks, Sharon spotted a type of organism growing on all 3 slices of bread. Name the organism. [1]

_____

(b) Arrange the bags A, B and C according to the rate at which the organisms would grow on the bread placed in the 3 different locations, starting from the fastest to the slowest. [1]

_____

(c) What should Sharon do to a new slice of bread if she wants to prevent the organism stated in (a) from growing? [1]

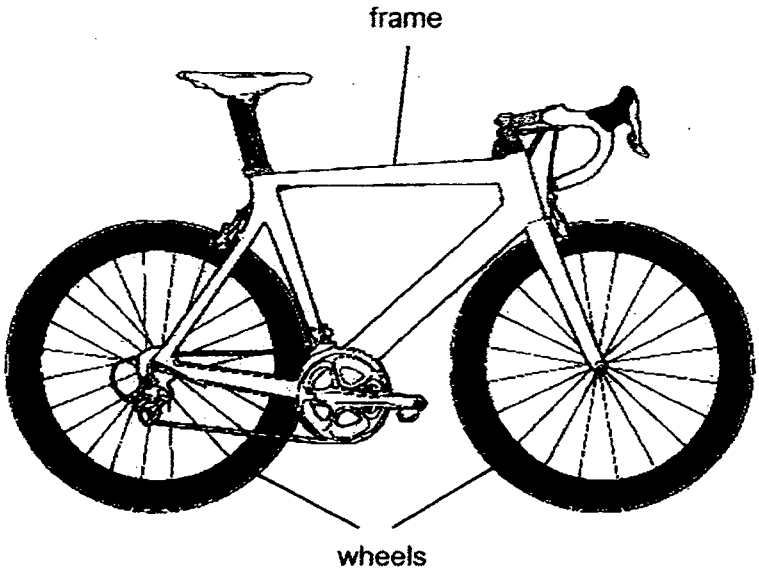
_____

_____

(Go on to the next page)

SCORE	
	3

28. The diagram below shows a bicycle. A bicycle transports a person from one place to another.



(a) The bicycle is similar to a human. Name the human system(s) that the bicycle resembles which allows a human to move from one place to another. [1]

_____

_____

(b) The frame of the bicycle is similar to a human organ/part in terms of its function. Identify the human organ/part and explain how the functions of the frame and the human organ/part that you have identified are similar. [1]

_____

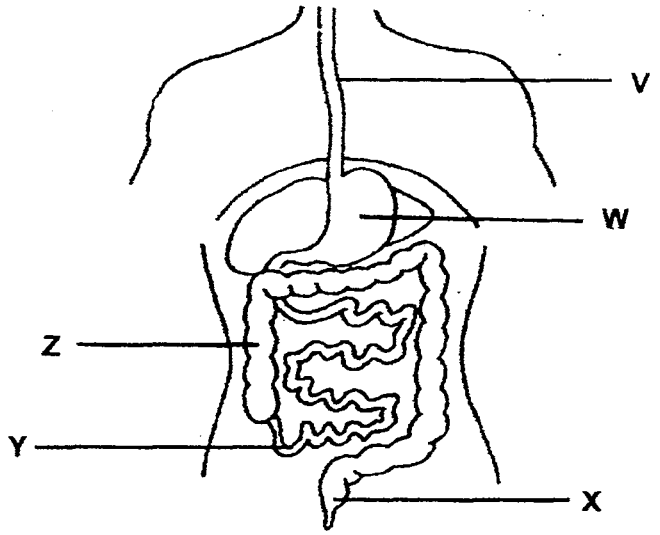
_____

_____

(Go on to the next page)

SCORE	/ 2

29. The diagram below shows parts of the digestive system.



(a) Based on the diagram above, in which of the 5 labelled parts of the digestive system (V, W, X, Y and Z) is digestive juices produced? [1]

_____

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

_____

_____

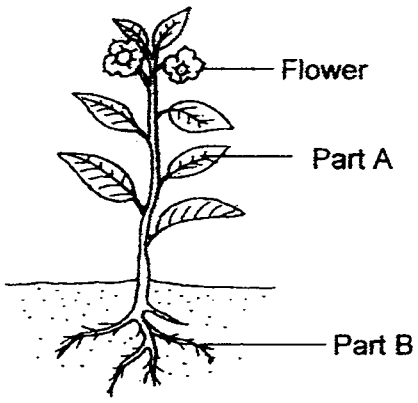
(c) Explain what will happen to the undigested food in part Z. [1]

_____

_____

(Go on to the next page)

30. The diagram below shows a flowering plant.



(a) What do the flowers of the plant develop into? [1]

_____

(b) State a function of part A. [1]

_____

_____

(c) State how part B is useful to the plant. [1]

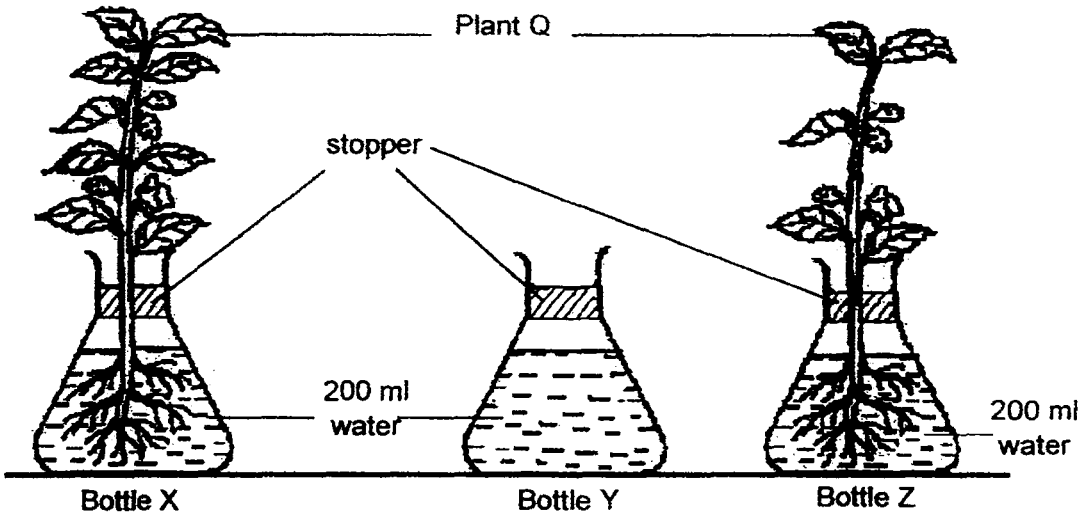
_____

_____

(Go on to the next page)

SCORE	
	3

31. Mei Lee carried out an experiment using the set-ups shown below. She used identical bottles and placed them at the same location. Each bottle was filled with 200 ml of water and fitted with a stopper. Bottles X and Z contain similar plants Q but with different number of leaves.



The table below shows the results of the experiment after 3 days.

	Bottle X	Bottle Y	Bottle Z
Number of leaves	9	0	5
Volume of water(ml) left	160	?	185

(a) What would be the volume of water left in Bottle Y after 3 days? [1]

_____

(b) Why did the volume of water in Bottles X and Z change over time? [1]

_____

_____

(c) What is the relationship between the number of leaves and the volume of water left after 3 days? [1]

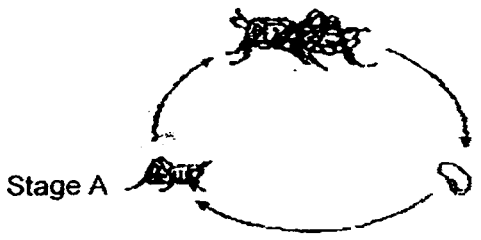
_____

_____

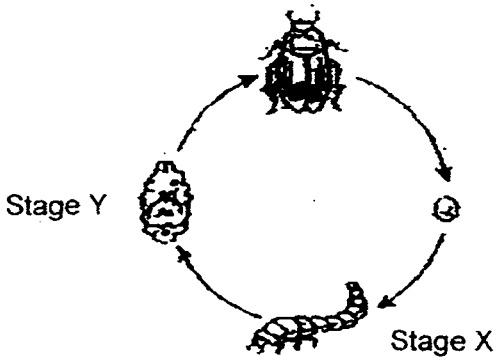
(Go on to the next page)

SCORE	
	3

32. Study the life cycles of the grasshopper and mealworm beetle shown below.



Life cycle of grasshopper



Life cycle of mealworm beetle

(a) State one difference between stage X and Y of the life cycle of the mealworm beetle. (Do not mention shape or size) [1]

_____

_____

(b) State one difference between stage A of the life cycle of the grasshopper and stage X of the life cycle of the mealworm beetle.
(Do not mention shape or size) [1]

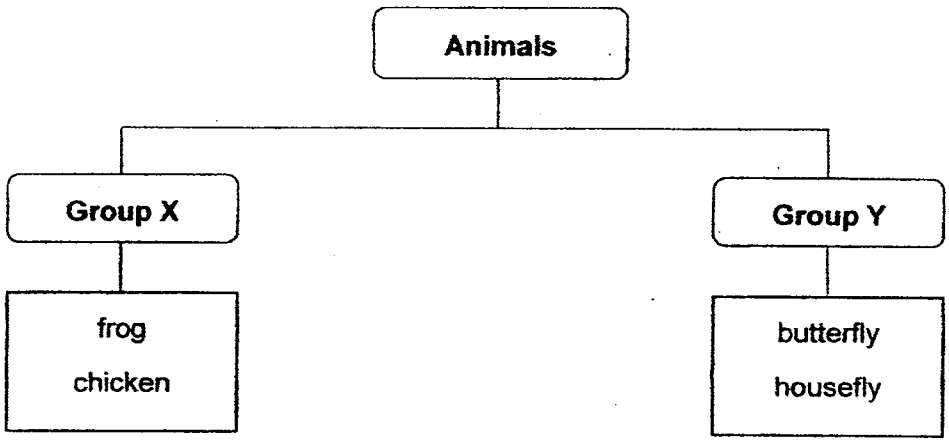
_____

_____

(Go on to the next page)

SCORE	/ 2

33. Study the classification chart below.



(a) Suggest an appropriate heading for Group X and Group Y. [1]

Group X : _____

Group Y : _____

Zach found a nymph of an insect and kept it for observation. He noticed that it moulted several times before becoming an adult.

(b) How many stages are there likely to be in the life cycle of the insect that Zach observed? [1]

_____

(c) Why did the nymph moult? [1]

_____

_____

(Go on to the next page)

SCORE	3

34. Steven observed a seed as it grew into a seedling. He recorded the mass of the seed leaves and shoot of the seedling in the table below.

Results	Day 0	Day 2	Day 4	Day 6	Day 8	Day 10
X	25g	20g	15g	11g	6g	6g
Y	5g	6g	9g	16g	20g	24g

(a) Which result, X or Y, correctly shows how the mass of the seed leaves change during the period of Steven's observation? Explain your answer. [1]

_____

_____

(b) After Day 14, the seed leaves dropped off. Explain why. [1]

_____

_____

(c) State all the conditions needed for a seed to germinate. [1]

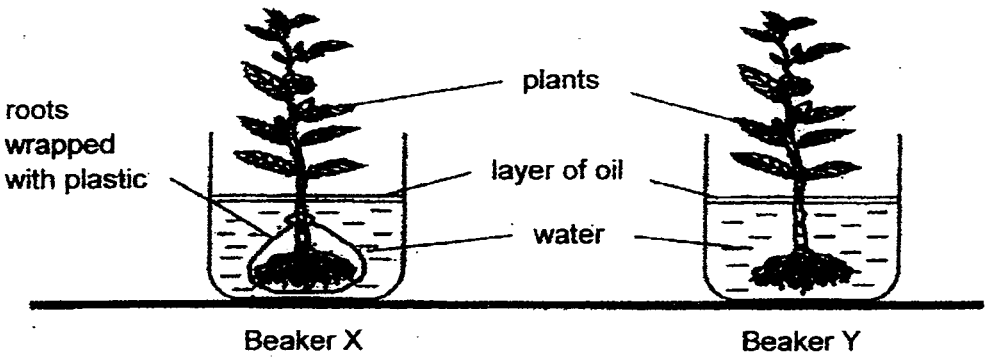
_____

_____

(Go on to the next page)

SCORE	
	3

35. Mandy carried out an experiment below for her school Science project. She poured 80ml of water into each of the two beakers, X and Y. Then, she placed two similar plants into each beaker, followed by a layer of oil to prevent water from evaporating.



She observed the plants and recorded the amount of water left in the beakers after three days in the table below.

	Volume of water left in beaker (ml)	
	Beaker X	**Beaker Y**
End of Day 1	80	77
End of Day 2	80	75
End of Day 3	80	70
End of Day 4	80	60

(a) What is the aim of Mandy's experiment? [1]

_____

_____

(b) State another variable that she must keep constant to ensure a fair experiment. (Do not repeat those already mentioned) [1]

_____

_____

(c) How will the results of water left in Beaker Y be affected for the 3 days if Mandy removed most of the leaves from the plant in beaker Y at the start of the experiment? [1]

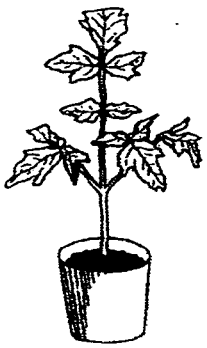
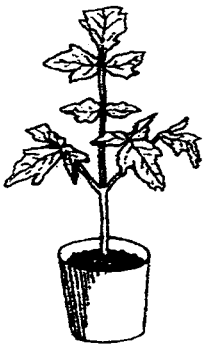
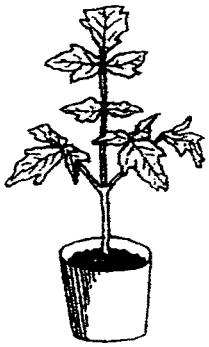
_____

_____

(Go on to the next page)

SCORE	
	3

36. Joash wanted to find out how the amount of sunlight a plant received would affect its growth. He put the identical plants at different places as shown in the diagram below.

		
Plant J Placed in the school field	Plant K Placed in the cupboard	Plant L Placed in the living room

After 3 weeks, he observed that all the plants had grown taller. He then recorded the height of the plants.

(a) Which plant, J, K or L, would most likely have the greatest height? Explain your answer. [1]

_____

_____

(b) During the 4th week of his experiment, Joash noticed that Plant L was growing towards one direction. Explain why the plant was growing in this way. [1]

_____

_____

(c) Joash wrote some notes inside his Science textbook about plants. Read the following statements and put a tick (✓) in the true or false column. [1]

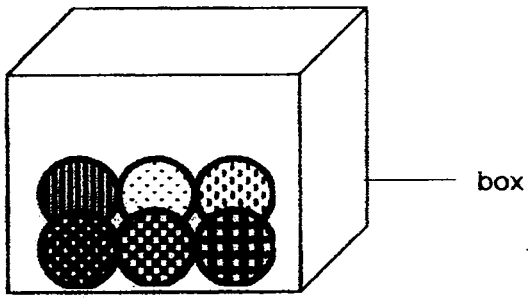
	Statements	True	False
(i)	Mosses are not plants		
(ii)	Only flowering plants can bear fruits		
(iii)	Plants need air, water and food to survive		
(iv)	Sunlight is not needed for germination		

(Go on to the next page)

SCORE	/3

37. Nancy found a box containing six balls of identical size. The balls are made of different materials as stated below.

					
Rubber	Aluminium	Wood	Steel	Plastic	Ceramic

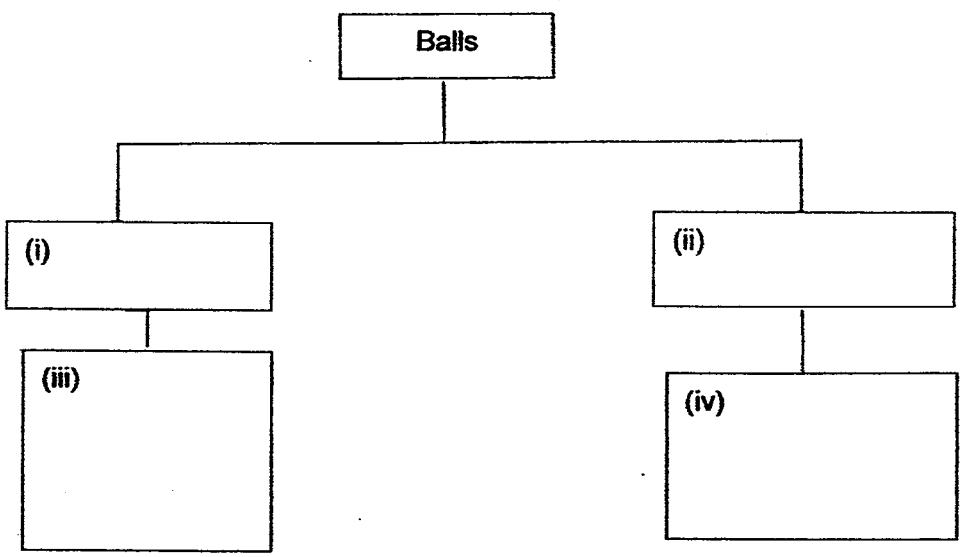


(a) Nancy found a magnet, cotton wool, a compass and some iron filings on the table. Explain how she may use one or more of these materials to get only the steel ball out from the ~~tank~~. [1]

_____

_____

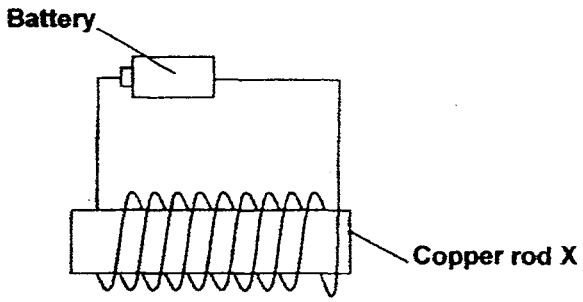
(b) Classify the six balls into two groups with suitable headings. [2]



(Go on to the next page)

SCORE / 3

38. John conducted an experiment using a Copper Rod X as shown in the set-up below. The battery is connected to the wires and is working well.



He closed the switch and brought Rod X near some iron paper clips. But none of the paper clips were attracted to it.

(a) Based on the set-up above, give a reason why the paper clips were not attracted to the Copper Rod X. [1]

_____

_____

(b) Suggest a change that John can make to the above set-up, in order to make the electromagnet work. [1]

_____

_____

(c) After John has made the change in (b), suggest 2 other things that he can do to increase the strength of the electromagnet. [1]

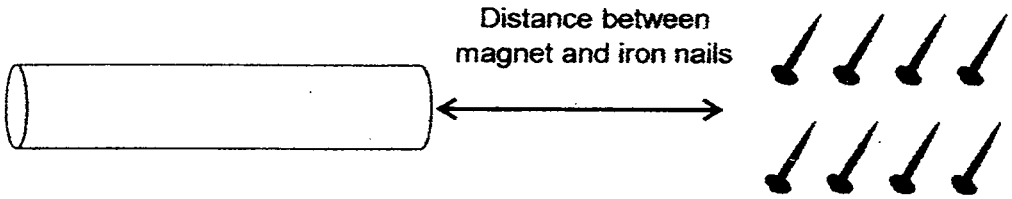
_____

_____

(Go on to the next page)

SCORE	

(d) John brought the new and working magnet near a box of iron nails as shown below.



Distance between magnet and the iron nails (cm)	Number of iron nails attracted to the magnet
5	17
8	9
9	7
12	3

Based on the above table, what is the relationship between the distance between the magnet and the iron nails and the number of iron nails attracted to it? [1]

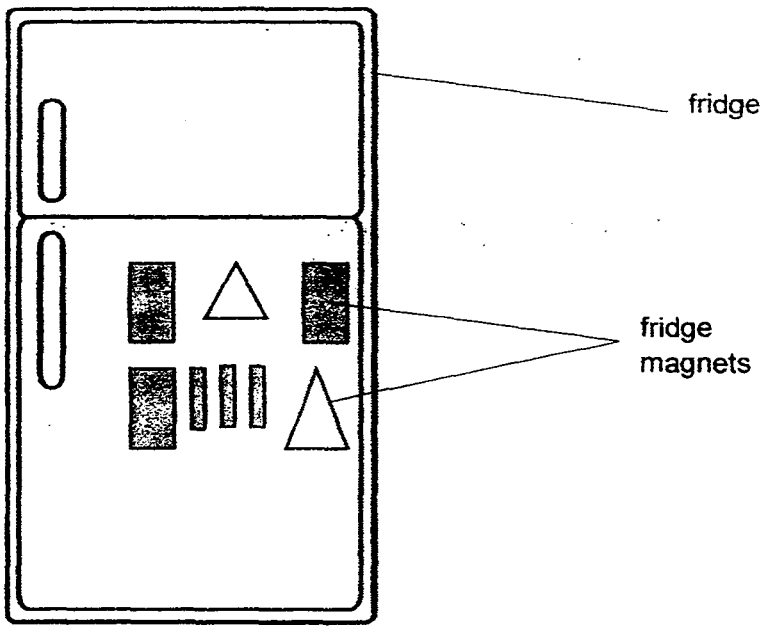
_____

_____

(Go on to the next page)

SCORE 1

39. Rosy pasted a lot of magnets on her fridge as decorations. However, her two-year old son loves to touch them and would accidentally drop them many times on the floor due to his poor grip. After some time, Rosy noticed that some of her fridge magnets kept falling off.



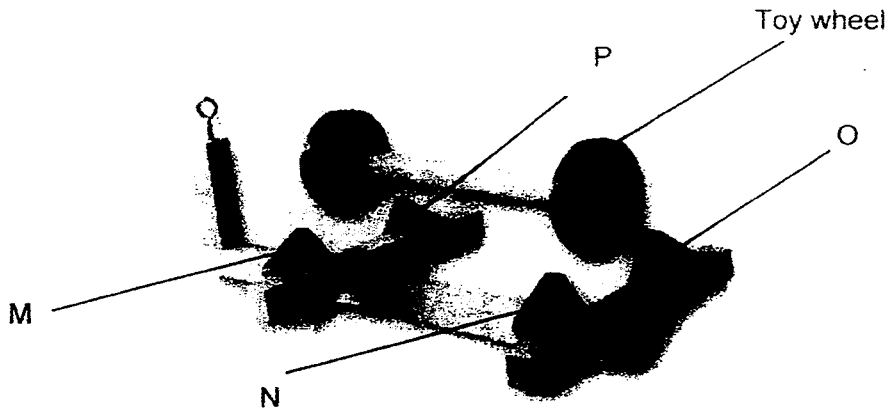
(a) Explain why the magnets kept falling off the fridge. [1]

_____

_____

SCORE	
	1

The diagram below shows a pair of floating toy wheels which uses the properties of magnetism to work. There are four bar magnets below the toy wheels, labelled M, N, O and P.



(b) What is the property of magnets that caused the toy wheels to remain floating above the four bar magnets? [1]

_____

_____

End of Paper

SCORE	/ 1

Answer Key

EXAM PAPER 2015

SCHOOL : ACS

SUBJECT : P4 SCIENCE

TERM : SA1

ORDER CALL : MR GAN @ 92998971 92475053 86065443

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	2	4	1	2	4	1	4	2	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	4	2	3	1	4	4	4	2	3
Q21	Q22	Q23	Q24	Q25					
1	4	1	1	3					

26)a)Both set-ups should have food.

b)A: The lizard would still be alive.

B: The lizard would die.

c)He should add five files the same amount of food in set-up B.

27)a)Mould.

b)C, A, B

c)Sharon should toast the bread.

28)a)The skeletal and muscular system.

b)The skeleton. The skeleton gives our body shape like the frame of a bicycle.

29)a)W and Y.

b)Part V transports the partially digested food from the mouth to the stomach.

c)Water would be absorbed from the undigested food in part Z.

30)a)The flowers would develop into a fruit.

b)Part A traps sunlight to make food for the plant.

c)Part B anchors the plant firmly to the ground and absorbs water and salts from the ground for the plant to survive.

31)a)200ml.

b)The roots of the plants in Bottles X took in the water from the bottle to survive.

c)As the number of leaves on the plant increases, the amount of water left in the bottle decreases.

32)a)Stage X of the mealworm beetle eats a lot and moults several times while stage Y does not.

b)Stage A of the life cycle of the grasshopper resembles the adult while stage X of the life cycle of the mealworm beetle does not resemble the adult.

33)a)X: Have 3 stages in its life cycle.

Y: Have 4 stages in its life cycle.

b)# stages.

33)c)The nymph was growing bigger and its new skin was growing, causing it to shed off its old skin.

34)a)X. The young plant has used up the food in the seed leaves to survive as it does not have leaves to trap sunlight and make food for it.

b)The young plant has used up all the food in the seed leaves and no longer needs it as has leaves to trap sunlight and make food for it.

c)Water, Oxygen and warmth.

35)a)The aim of Mandy's experiment is to find out if roots take in water.

b)The location where the plants are put.

c)The volume of water in the beaker at the end of each day will be more higher.

36)a)Plant J. It has the most amount of sunlight for the leaves to make food for the plant to survive.

b)The plant is growing towards the direction of sunlight window so as to absorbs sunlight to make food.

c)i)F ii)T iii)T iv)T

37)a)She could use the magnet to get only the steel ball out from the box.

b)i)Magnetic materials ii)Non-magnetic materials

iii)Steel iv)Rubber, Aluminium, Wood, Plastic

Ceramic

38)a)Copper is not a magnetic material.

b)He could use a magnetic material as an electromagnet in order to make the electromagnet work.

38)c)He could used batteries or coil around the rod more times.

d)As the distance between the magnet and iron nails increases, the number of iron nails attracted to the magnet decreases.

39)a)The magnets has lost their magnetism because Rosy's two-year old son accidentally dropped them many times.

b)The toy wheel repelled from the four magnets below it like poles repel.