FIRST SEMESTRAL ASSESSMENT 2016

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 4 SY / C / G / SE / P

Parent's Signature:

_____

SCIENCE

BOOKLET A

25 questions

50 marks

Total time for Booklets A & B: 1 h 25 min

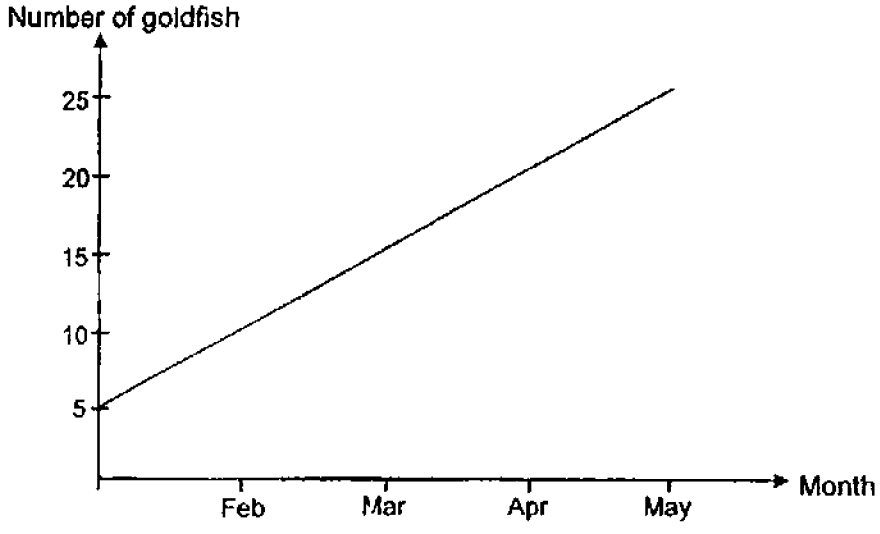
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part I (50 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.**

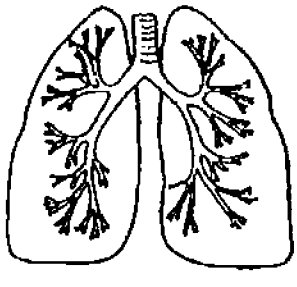
1. Patrick put 5 goldfish in a fish tank and fed them every day. The graph below shows the number of goldfish in the tank over the next few months.



The graph shows that living things _____.

1) grow
2) reproduce
3) respond to changes
4) need air, food and water

2. The diagram below shows an organ in the human body.

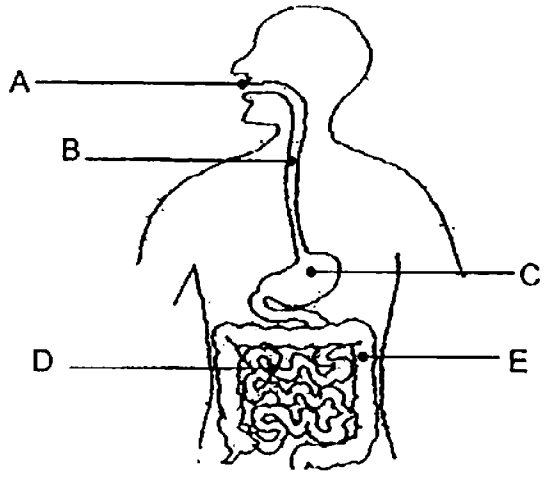


It is a part of the _____ system.

1) circulatory
2) respiratory
3) skeletal
4) digestive

(Go on to the next page)

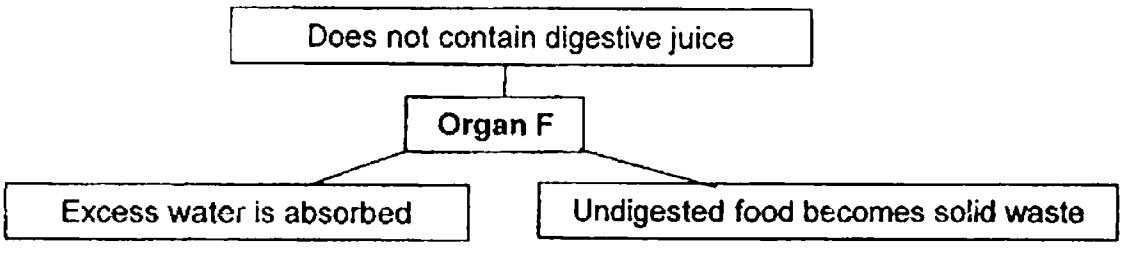
3. The diagram below shows the human digestive system.



Which parts produces digestive juice?

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

4. Study the concept map below.



What is mostly likely to happen if Organ F does not function properly?

1) Food will flow to the gullet.
2) Watery waste will be passed out.
3) Food cannot be digested completely.
4) Digested food cannot be absorbed by our body.

(Go on to the next page)

5. Four children were shown a picture of a tree as shown below. Each of them made a statement about part X.

Ali: It connects the roots to the other parts of the tree.
Betty: It helps hold the tree firmly to the ground.
Chris: It transports water to the leaves.
Devi: It transports food to the leaves.

Which of the children is/are correct?

1) Chris only
2) Ali and Chris only
3) Betty and Devi only
4) Ali, Betty and Chris only

6. The table below shows information about 3 animals, X, Y and Z.

Animal	Number of legs		Methods of reproduction	
	2	4	Lays eggs	Gives birth
X		✓	✓	
Y	✓		✓	
Z		✓		✓

What outer body coverings do animals X, Y and Z most likely have?

	Animal X	Animal Y	Animal Z
1)	Feathers	Shell	Scales
2)	Scales	Hair	Shell
3)	Exoskeleton	Scales	Hair
4)	Scales	Feathers	Hair

(Go on to the next page)

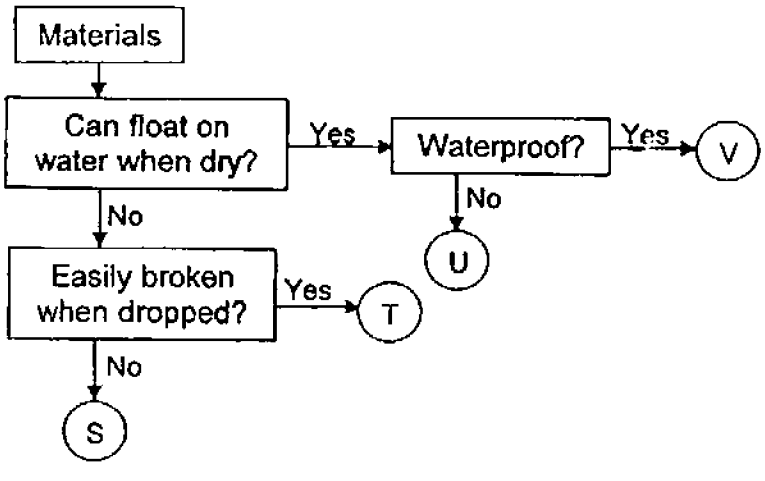
7. Steve wants to go camping. He wants to build his own tent as shown below.

Which properties must Material A have so that it can be used by Steve to build his tent?

A: It must be heavy.
B: It must be flexible
C: It must be waterproof.
D: It can float on water.

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

8. 4 balls are made of materials S, T, U and V. Use the chart below to determine the material each ball is made of.

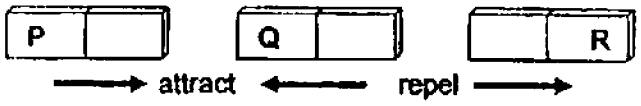


Which of the following can S, T, U and V be?

	S	T	U	V
1)	glass	silver	paper	plastic
2)	iron	glass	plastic	paper
3)	paper	plastic	silver	glass
4)	silver	glass	paper	plastic

(Go on to the next page)

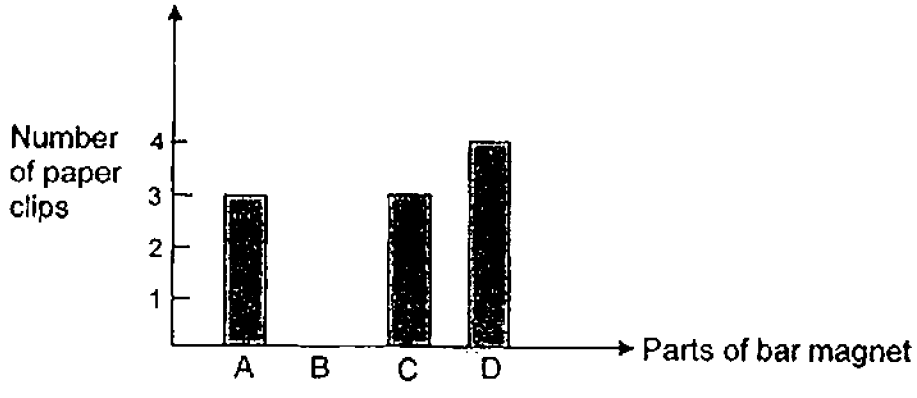
9. The diagram below shows 3 magnets.



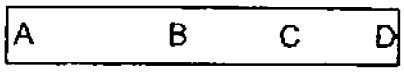
What are the poles marked P, Q and R?

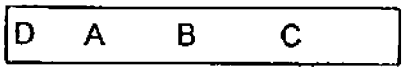
	P	Q	R
1)	North pole	North pole	North pole
2)	North pole	South pole	South pole
3)	South pole	South pole	North pole
4)	South pole	North pole	South pole

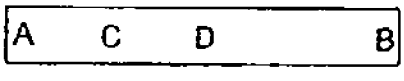
10. Muthu recorded the number of paper clips attracted to different parts of a bar magnet and plotted the graph as shown below.

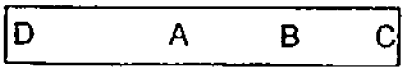


Identify the bar magnet that Muthu used in his experiment.

1) 

3) 

2) 

4) 

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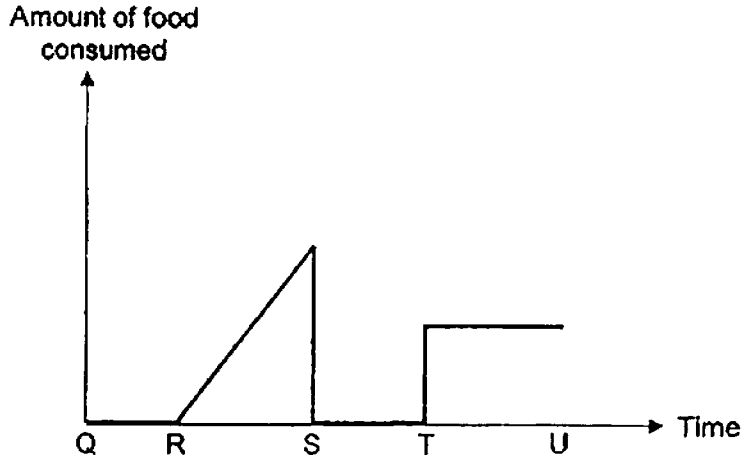
11. Jeremy compared the life cycles of the butterfly and the grasshopper.

	Characteristics	Butterfly	Grasshopper
A:	Has 4 stages in its life cycle?	Yes	No
B:	Does the young moult?	Yes	No
C:	Does the young resemble its adult?	No	Yes
D:	Does it lay its eggs in water?	Yes	Yes

Which of the above comparisons are correct?

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

12. Faizal studied Animal X which started eating upon hatching. He observed the amount of food consumed during the 4 stages of its life cycle. He plotted his observations in the graph below.



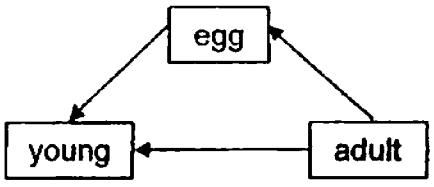
Which stage is Animal X in from S to T?

1) nymph
2) larva
3) pupa
4) adult

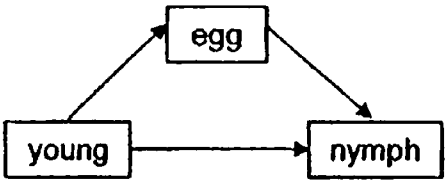
(Go on to the next page)

13. Study the life cycles shown below. Which life cycle is drawn correctly?

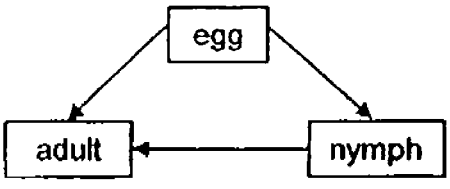
1)



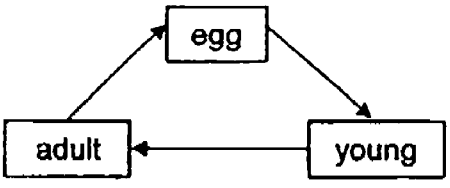
3)



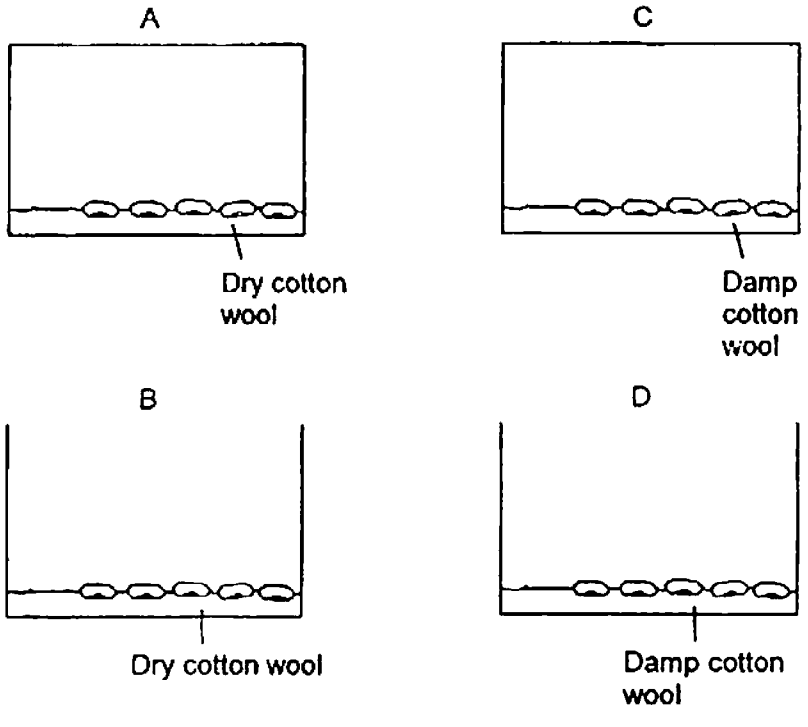
2)



4)



14. Seeds were placed in 4 identical containers as shown in set-ups A, B, C and D below. Containers A and C were sealed. All the set-ups were at room temperature.

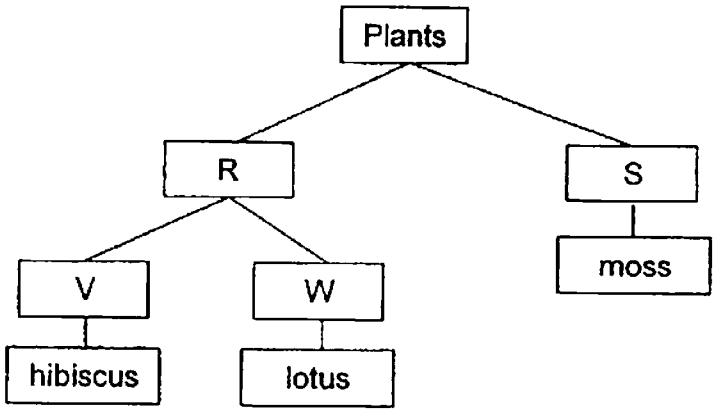


Which 2 set-ups would the seeds most likely germinate?

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

(Go on to the next page)

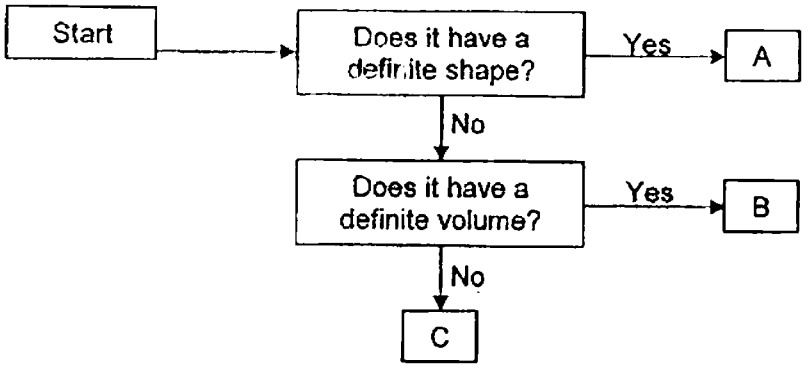
15. Susan grouped some plants using the classification chart below.



What could the headings R, W and S be?

	R	W	S
1)	Reproduce from seeds	Land	Reproduce from spores
2)	Non-flowering	Water	Flowering
3)	Flowering	Water	Non-flowering
4)	Reproduce from spores	Land	Reproduce from seeds

16 Study the flow chart below carefully.



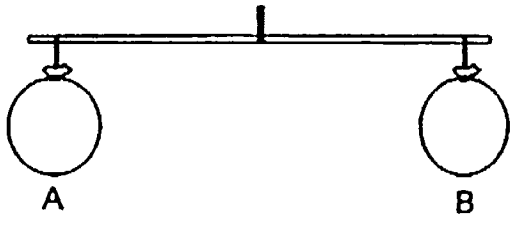
How many of the items in the table below can be placed at B?

milk	water
sand	air
sponge	petrol

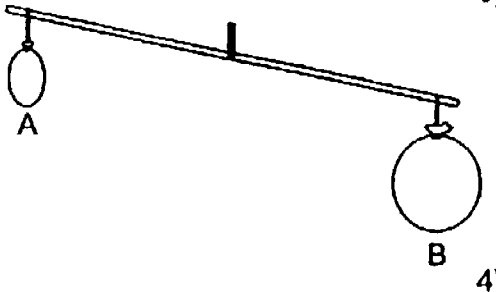
1) 1
2) 2
3) 3
4) 4

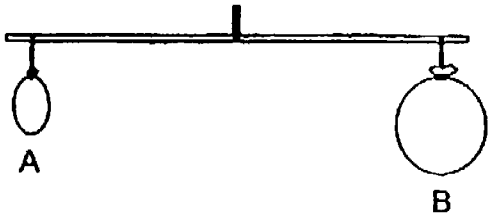
(Go on to the next page)

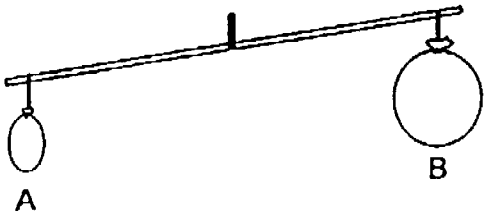
17. Timmy blew 2 balloons and hung them on a balance rod as shown below. He then let the air out of Balloon A.

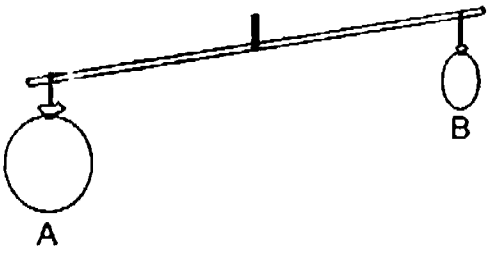


Which of the following would Timmy observe?

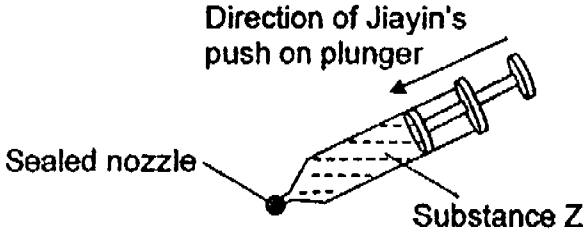
1)


3)


2)


4)


18 The syringe below contains 100cm^3 of Substance Z and its nozzle is sealed. Jiayin is not able to push the plunger inwards no matter how hard he tries.

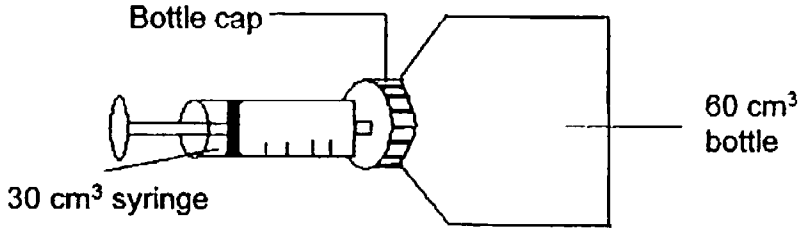


This experiment shows that Substance Z _____.

1) has mass
2) is a matter
3) can be compressed
4) has a definite volume

(Go on to the next page)

19. Huixin took a 30 cm^3 syringe and filled it with air. She poked a hole through a bottle cap and pushed all the air out of the syringe into an empty bottle with a capacity of 60 cm^3. She repeated pumping air into the bottle until she had pumped a total of 120 cm^3. After that, she sealed the bottle cap with sticky tape to prevent any air from escaping.



What is the volume of air in the bottle now?

1) 30 cm^3
2) 60 cm^3
3) 120 cm^3
4) 180 cm^3

20. Doris was given a table as shown below.

Substances	Has a definite shape	Has a definite volume
H	✓	✓
K		✓

What conclusions can Doris make based on the information given?

1) Substance H is a solid but Substance K is a liquid.
2) Substance H is a liquid but Substance K is a gas.
3) Both substances take the shape of a container.
4) Both substances can be compressed.

21. Which one of the following is **not** a source of heat?

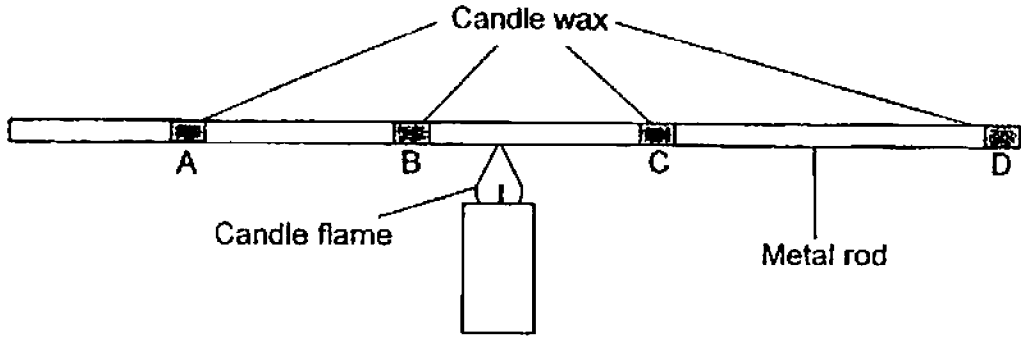
1) A sweater
2) A candle flame
3) The Sun
4) A lighted gas stove

(Go on to the next page)

22. The following items were left standing in a cup of hot coffee. Which item would feel the hottest when touched?

1) Plastic fork
2) Glass rod
3) Wooden chopsticks
4) Stainless steel spoon

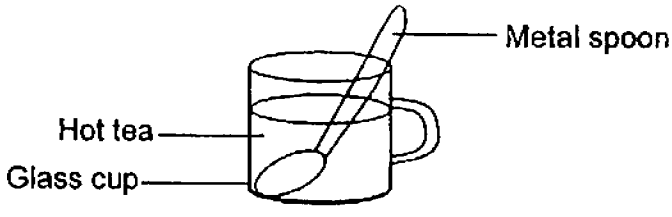
23. Phyllis was given a metal rod. The metal rod was coated with candle wax at parts A, B, C and D. The metal rod was heated over a candle flame as shown below.



In what order would the wax melt?

	First	→		Last
1)	A	B	C	D
2)	D	B	C	A
3)	C	B	D	A
4)	B	C	A	D

24. Aminah made a cup of hot tea for herself. She then left her cup of tea on her dining table as shown below for 15 minutes.

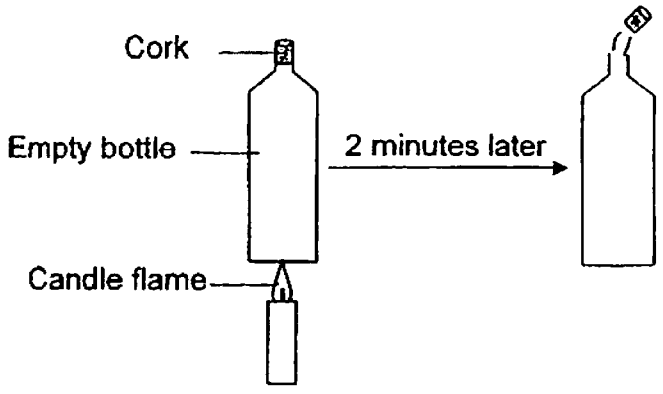


Which of the following describes what was happening to the cup, ~~spoon~~ and tea during the 15-minute duration?

	Glass cup	Hot tea
1)	Losing heat	Losing heat
2)	Gaining heat	Losing heat
3)	Gaining heat	Gaining heat
4)	Losing heat	Gaining heat

(Go on to the next page)

25. An empty bottle which was sealed with a cork was heated. 2 minutes later, the cork popped out.



Which of the following best explains the above observation?

1) The air outside the bottle gained heat and expanded.
2) The air inside the bottle gained heat and expanded.
3) The air inside the bottle lost heat and contracted.
4) The bottle lost heat and contracted.

End of Booklet A

FIRST SEMESTRAL ASSESSMENT 2016

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 4 SY

Parent's Signature:

_____

SCIENCE

BOOKLET B

	Total Actual Marks	Total Possible Marks
Booklet A		**50**
Booklet B		**30**
Total		**80**

10 questions

30 marks

Total time for Booklets A & B: 1 h 25 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

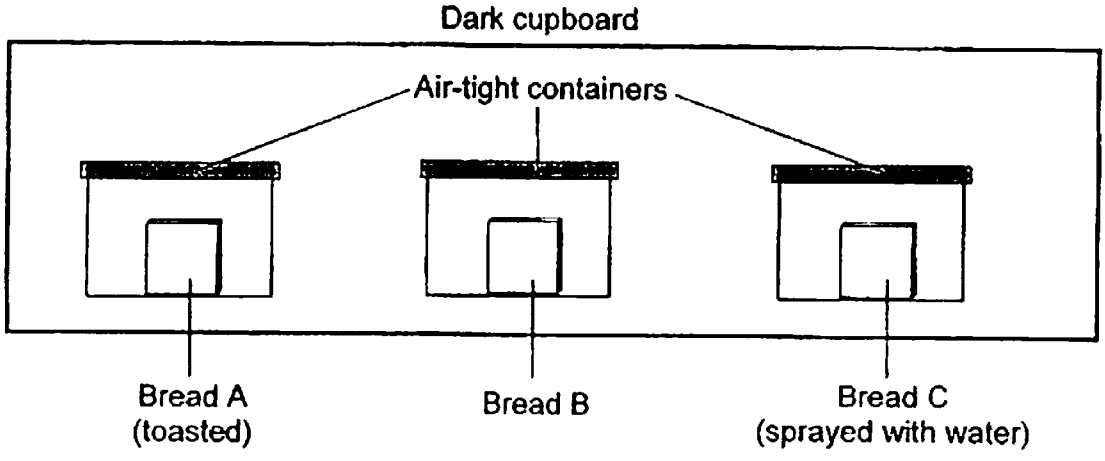
Name: _____( ) Date: _____

Class: Primary 4 SY

Part II (30 marks)

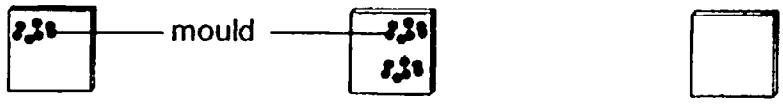
Answer all the following questions.

26. Three similar slices of fresh bread were kept in 3 similar air-tight containers. All the containers were then placed in a warm place for a week.



At the end of one week, the containers were removed from the cupboard and patches of mould were seen appearing on only two slices of bread.

a) Below are the results of the experiment. Match the results to the correct slices of breads by writing A, B and C in the blanks. [1]



Bread _____ Bread _____ Bread _____

b) What is the purpose of toasting Bread A in the oven? [1]

_____

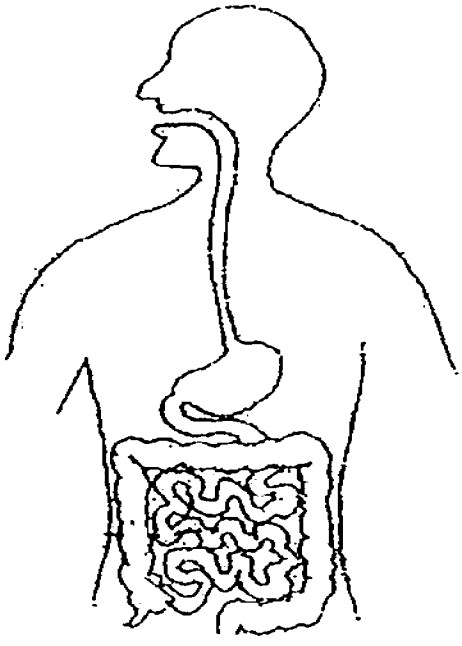
c) Based on the experiment, mould will grow faster on the bread when the bread has _____. [1]

3

(Go on to the next page)

27. Organ L is part of the human digestive system. It has digestive juices and the process of digestion ends here.

a) Based on the above descriptions, label Organ L in the diagram below. [1]



b) When digestion is completed at Organ L, what happens to the digested food? [1]

_____

_____

c) The _____ connects the mouth to the stomach. [1]

3

(Go on to the next page)

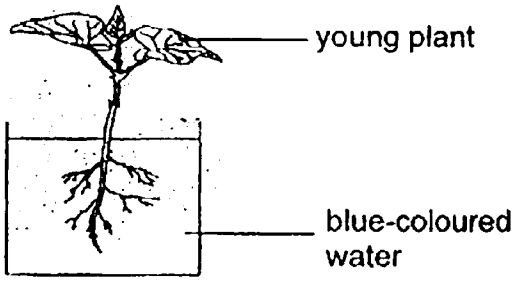
28. The following objects are classified according to the materials they are made of.

Group P	Group R
Spectacle lens	Raincoat
Window pane	Drinking straw
Car windscreen	Water bottle

Identify the material used to make the objects in each group and a property of the material that makes it suitable to make the group of objects. [2]

	Material	Suitable property
Group P		
Group R		

29. Isabel placed a young plant into a beaker of blue-coloured water as shown below. After 2 days, she observed that the leaves turned blue.



Explain clearly why the leaves of the young plant turned blue. [2]

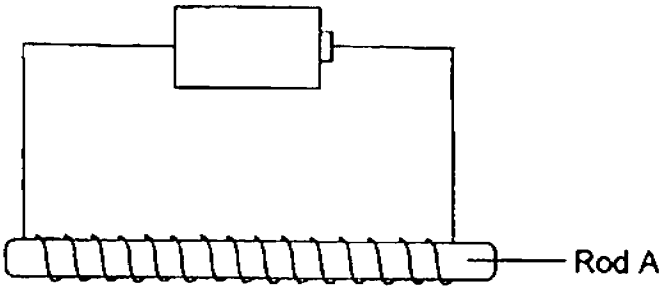
The roots _____ and

the stem _____.

4

(Go on to the next page)

30. Isaac prepared the set up below using a new battery.



a) When he sprinkled some iron filings around Rod A, he observed that none was attracted to Rod A. Explain to Isaac why this happened. [1]

_____

_____

b) Using the same set-up, Isaac then changed Rod A to Rod B. When iron filings are sprinkled on Rod B, most were attracted to Rod B. Name a possible material that Rod B was made of. [1]

_____

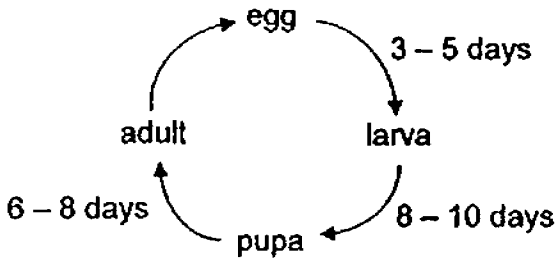
c) List 2 methods we can use to increase the strength of an electromagnet. [2]

Method 1:	
Method 2:	

/4

(Go on to the next page)

31. Study the life cycle of Animal X below.



a) What is the greatest number of days Animal X will take to become an adult from the egg stage? [1]

_____

b) Tick the animal/s that has/have a similar life cycle as Animal X. [1]

Dragonfly	
Butterfly	
Frog	
Bee	

c) Besides laying eggs, name another similarity between the life cycle of Animal X and a cockroach. [1]

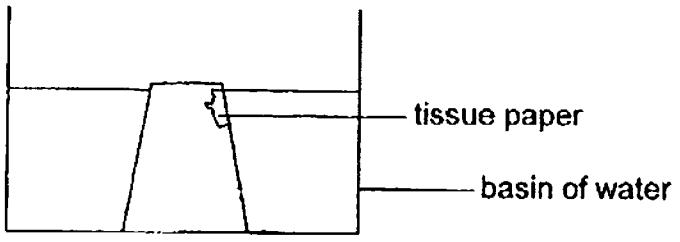
_____

_____

3

(Go on to the next page)

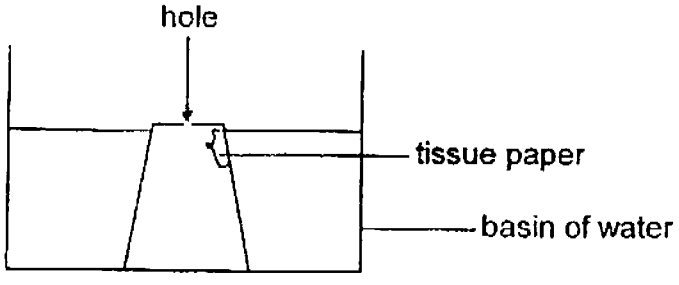
32. Julia pushed an inverted plastic cup with a piece of tissue paper stuck to its bottom into a basin of water as shown below.



a) Draw a line to show the water level inside the cup in the diagram above. [1]

b) Explain why the tissue paper did not get wet. [1]

c) What will happen to the water level in the cup if Julia makes a hole in the bottom of the cup? [1]



3

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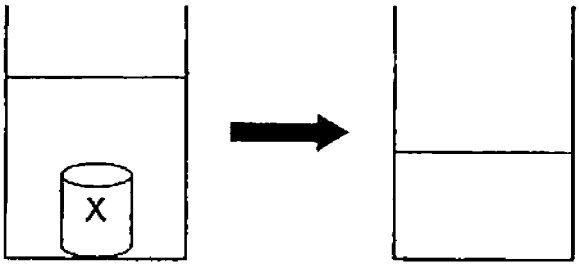
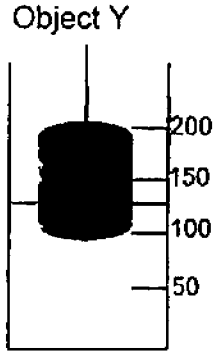
33. Peiyi was given a beaker filled with water and Object X in it as shown below. The volume of Object X and water was 220 cm^3. Peiyi then removed Object X and found that the volume of water was 165 cm^3.



a) What is the volume of the object? [1]

Peiyi then used a measuring cylinder filled with 100 cm^3 of water and held Object Y as shown below to measure the volume of Object Y.



b) Explain clearly to Peiyi why her method will not result in the actual volume of Object Y. [2]

3

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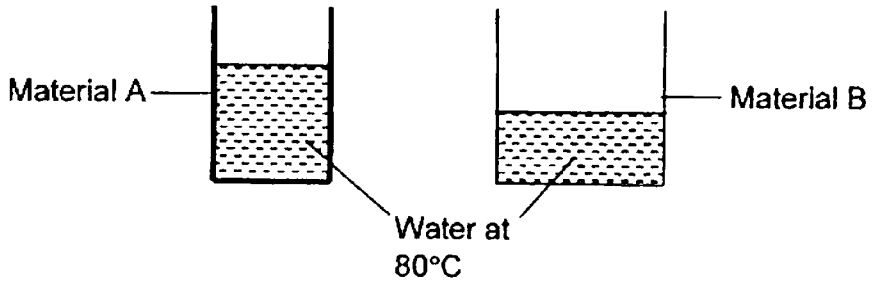
34. James wanted to find out which material, A or B, can be used to store cold drinks. He then prepared the set-up as shown below. He poured the same amount of water at 80°C into two cups made of Materials A and B.

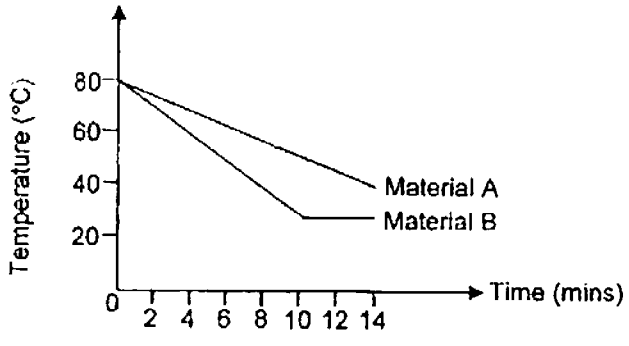


a) His teacher told him that his experiment is not a fair test. State 2 variables he needs to keep the same for a fair test. [1]

i) _____

ii) _____

After making the necessary change to ensure a fair test, he carried out the experiment. He used a datalogger and 2 temperature sensors to measure the changes in temperature of the hot water in the 2 cups. The results of his experiment are shown below.



b) James chose to use Material A to make a container for storing cold drinks. Explain his choice. [2]

_____

_____

_____

3

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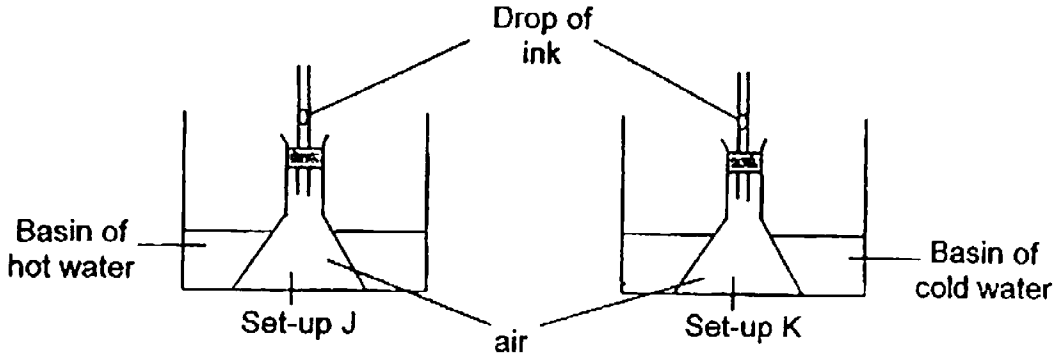
35. Study the 2 set-ups below.



a) Tick what would happen to the drop of ink in Set-ups J and K? [2]

	Move upwards	Remain the same	Move downwards
Set-up J			
Set-up K			

b) Explain your answer for Set-up K. [2]

_____

_____

_____

4

End of Booklet B

EXAM PAPER 2016 (P4)

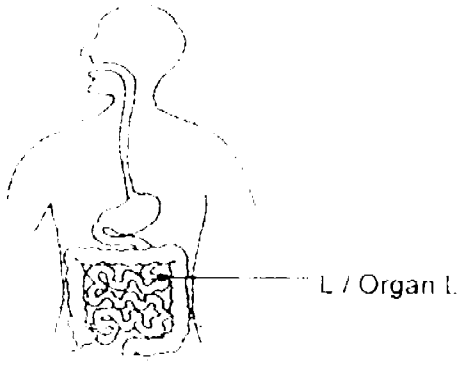
SCHOOL : SCGS

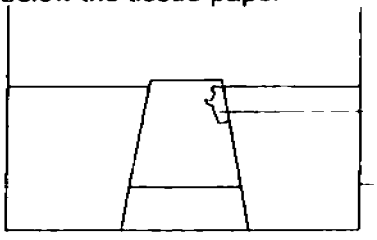
SUBJECT : SCIENCE

TERM : SA1

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

SINGAPORE CHINESE GIRLS' SCHOOL
FIRST SEMESTAL EXAMINATION 1 2016
PRIMARY 4 SCIENCE

Question No.	Suggested Answer
26a	B, C, A
26b	To remove water/ moisture (from Bread A/ the bread).
26c	**more** water/ moisture
27a	
27b	It enters the blood / blood stream / body.
27c	gullet
28	**Group P**: Glass / clear plastic, transparent / allow light to pass through **Group R**: Plastic, waterproof / does not absorb water
29	The roots of the plant **absorbed / took in the** blue-coloured **water** and the stem **transported the water to the leaves**.
30a	Rod A was made of a non-magnetic material / non-metal / copper / plastic
30b	Iron / steel / nickel / cobalt
30c	i) Increase the number / voltage / power / strength of batteries ii) Increase the number of coils / turns of wire around the rod
31a	23 (days)
31b	Butterfly, Bee
31c	Both the **young** of Animal A and cockroach moult.

<table>
<tr><th>Question No.</th><th>Suggested Answer</th></tr>
<tr><td>32a</td><td>Any level below the tissue paper
 
</td></tr>
<tr><td>32b</td><td>The air in the (inverted) cup occupied the space in the cup.</td></tr>
<tr><td>32c</td><td>It will rise / increase <u>until the water levels in the cup and basin are the same</u>.</td></tr>
<tr><td>33a</td><td>55 cm^3</td></tr>
<tr><td>33b</td><td>Object Y was <u>not fully submerged in the water</u> and <u>only part</u> of the volume of Object Y was measured.</td></tr>
<tr><td>34a</td><td>i) Size of cups
ii) Thickness of materials used to make the cups</td></tr>
<tr><td>34b</td><td>Material A is a poorer conductor of heat than Material B
thus it will conduct heat from the surrounding air to the cold drinks slower.</td></tr>
<tr><td>35a</td><td><table><tr><th></th><th>Move upwards</th><th>Remain the same</th><th>Move downwards</th></tr><tr><td>Set-up J</td><td>✓</td><td></td><td></td></tr><tr><td>Set-up K</td><td></td><td></td><td>✓</td></tr></table></td></tr>
<tr><td>35b</td><td>The air in the flask lost heat to the cold water and contracted.</td></tr>
</table>