SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2019

NAME:_____( )

DATE: 15 MAY 2019

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.

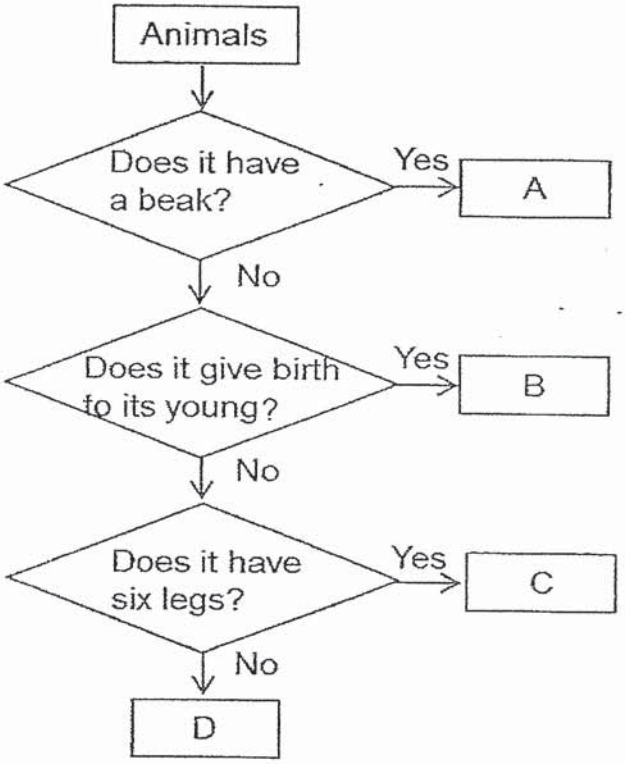
Part I (50 marks)

For each question from 1 to 25, 4 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. Which of the following statements is true for all mammals?

   1) They have 2 legs.
   2) They suckle their young.
   3) They live on land.
   4) They have scales on their body.

2. Study the flowchart below carefully.



Which of the animals below can be placed in A, B, C and D?

	A	B	C	D
1)	whale	lizard	penguin	lizard
2)	parrot	penguin	ant	whale
3)	lizard	ant	whale	penguin
4)	penguin	whale	ant	lizard

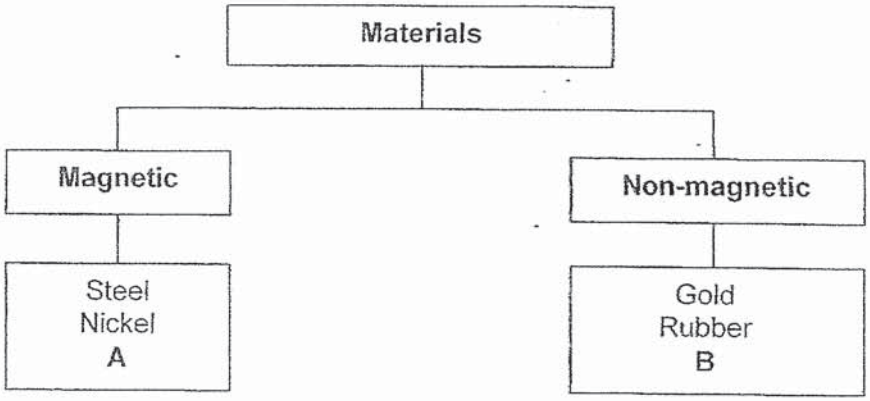
3. The following items are grouped according to the materials they are made from.

Group 1	Group 2	Group 3	Group 4
slippers	safety pin	newspaper	bedsheets
car tyre	paperclip	magazine	pyjamas

Which group should a 'balloon' belong to?

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

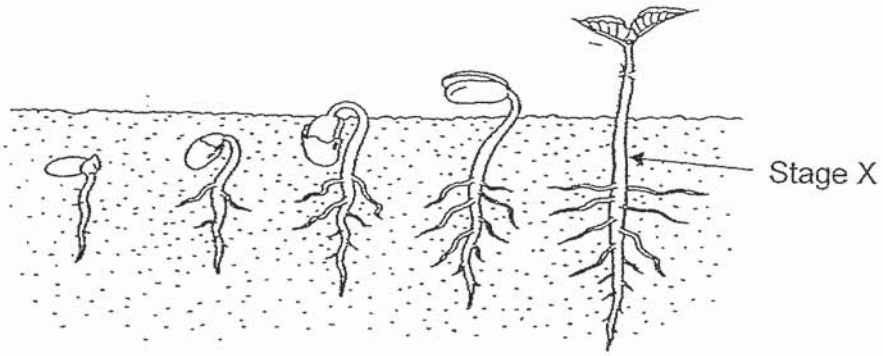
4. Study the classification diagram below.



Which of these materials are represented by A and B?

	A	B
1)	Aluminium	Cobalt
2)	Glass	Plastic
3)	Copper	Wood
4)	Iron	Glass

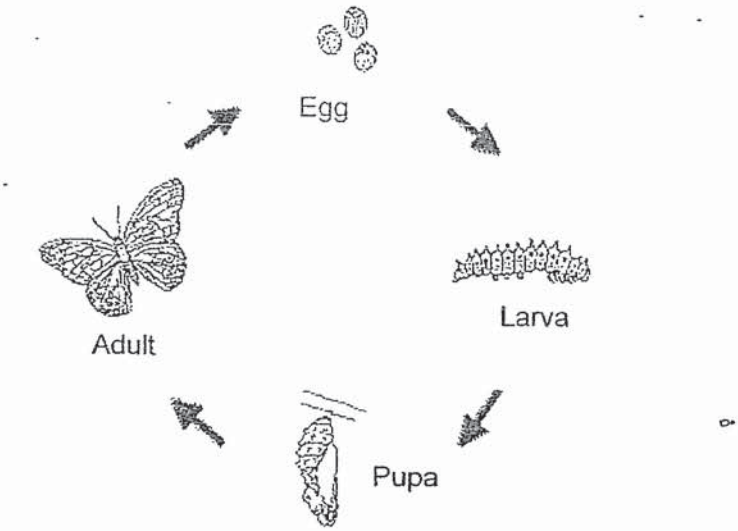
5. The diagram below shows the different stages of growth of a plant.



At stage X, the plant will be able to _____.

1) make its own food
2) get food from the soil
3) get food from its seed leaves
4) grow without the need for food

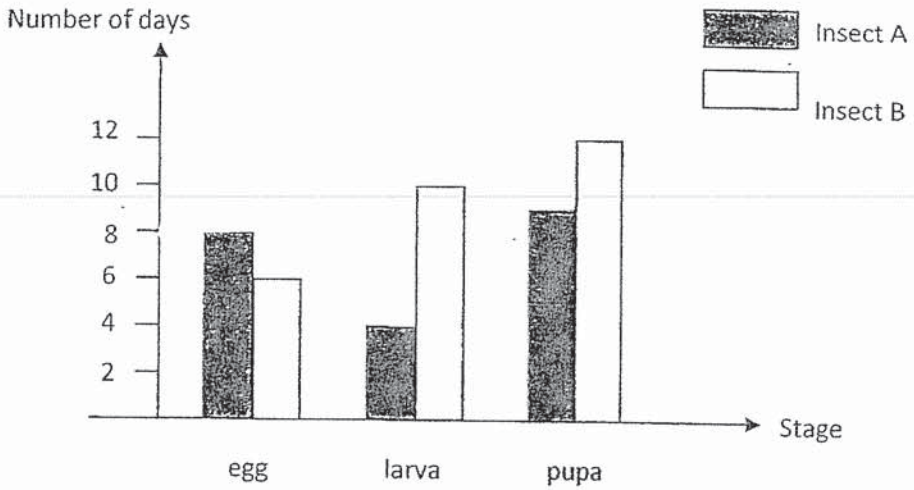
6. The diagram below shows the life cycle of a butterfly.



Which one of the following animals has the same number of stages in its life cycle as the butterfly?

1) frog and grasshopper
2) mosquito and mealworm beetle
3) cockroach and frog
4) grasshopper and mealworm beetle

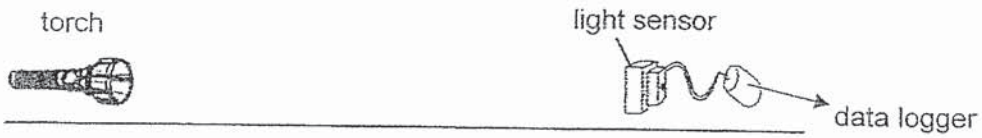
7. The graph below shows the number of days that insects A and B spent in each stage of their life cycles.



At which stage would insects A and B be on the 8th day of their life-cycles respectively?

	Insect A	Insect B
1)	egg	egg
2)	egg	larva
3)	pupa	larva
4)	pupa	pupa

8. Cathy set up an experiment as shown below.



She wrote down the amount of light that the datalogger has recorded from the light sensor. However, she accidentally spilled some coffee onto the results table as shown below.

Distance between torch and light sensor/ cm	Amount of light detected / lux
180	259
160	301
140	
120	400

What could be the possible amount of light that has been recorded by the datalogger?

1) 200
2) 259
3) 358
4) 459

9. Delia put four plants, W, X, Y and Z, under the conditions laid out in the table as shown below. The plants were left there for 2 weeks. A tick (✓) in the box indicates the condition that is provided for the plant.

Plants	Conditions		
	Air	Light	Water
W	✓		✓
X	✓	✓	
Y		✓	✓
Z	✓	✓	✓

What is the most likely outcome of Delia's experiment?

1) All the plants will grow.

2) Only plant Z will be able to grow.

3) Plants X and Z will be able to grow.

4) Plants Y and W will be able to grow.

10. Karen listed the characteristics of 3 different insects below.

Characteristics	Insect		
	P	Q	R
Has a four-stage life cycle		✓	✓
The young resembles the adult	✓		✓
They need air, food and water to survive	✓	✓	✓

Which insect(s) was she likely to have made a mistake in?

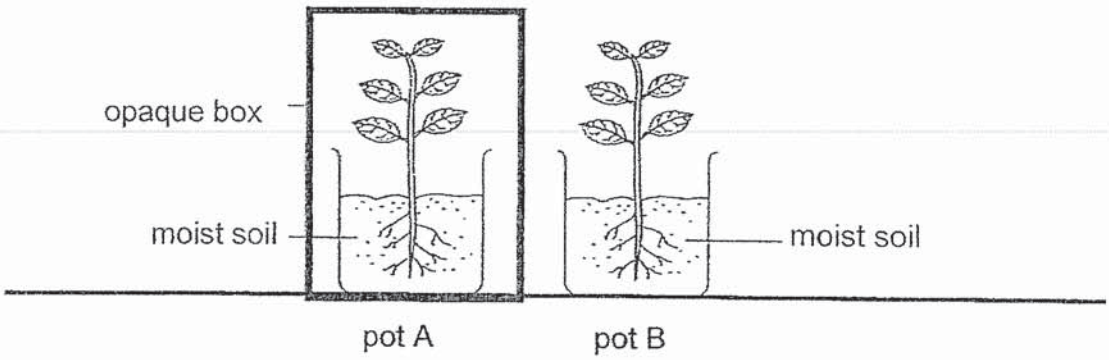
1) R only

2) P only

3) Q and R only

4) P, Q and R

11. Susan grew two similar plants, in pots A and B using the same type of soil. Both plants were watered daily. An opaque box was placed over pot A. She then placed both pots in the garden.



After 5 days, Susan noticed that the plant in Pot A did not grow as well as the plant in Pot B. This shows that plants need _____ to grow.

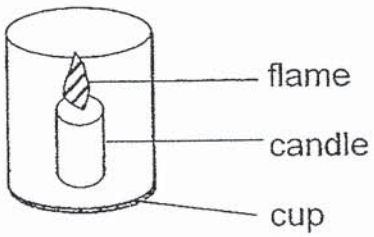
1) soil
2) water
3) light
4) fertiliser

12. Which of the following statements about fungi are true?

A. All fungi are inedible.
B. All fungi are harmful.
C. All fungi reproduce from spores.
D. All fungi do not make their own food.

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

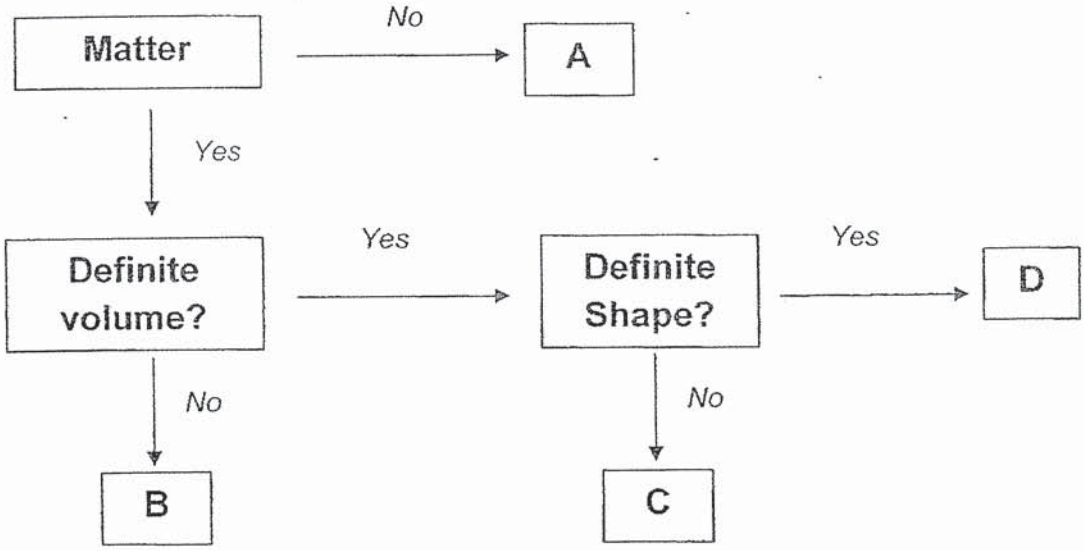
13. The picture below shows a lighted candle placed in a cup.



Why are we able to see the candle flame clearly?

1) The cup is frosted.
2) The cup gives off light.
3) The cup is opaque.
4) The cup is transparent.

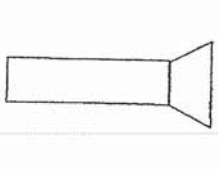
14. Study the flow chart below carefully.



Under which group would 'Shadow' be classified ?

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

15. Samuel placed object A in between a light source and a screen. He repeated the experiment with objects B and C.



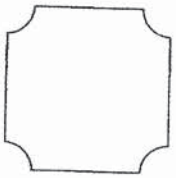
torch

object

screen

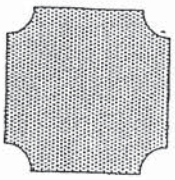
object A

object B



object

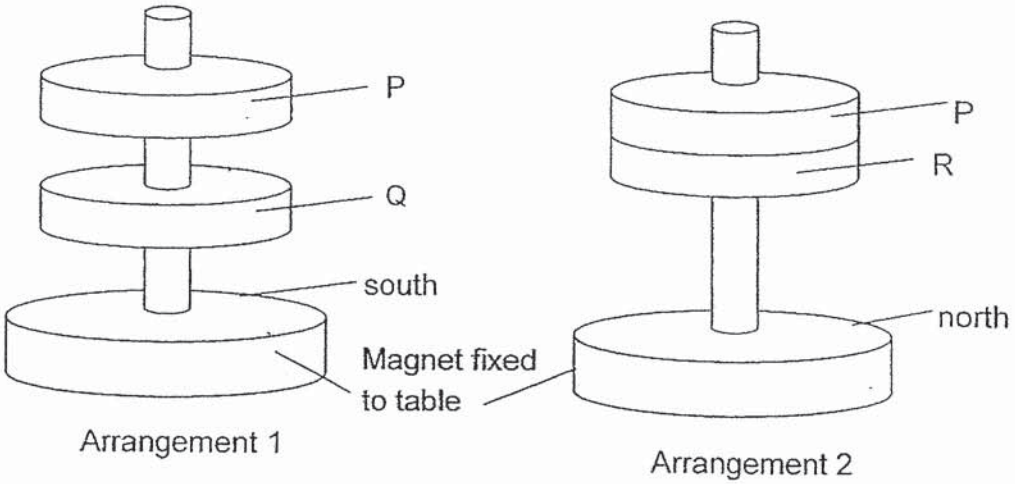
He recorded what he observed on the screen in the table below.

		
object A	object B	object C

Which of the following statements explain his observations?

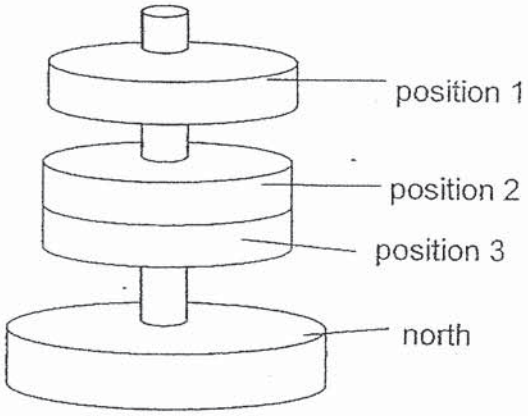
1) Light is completely blocked by object A and object B.
2) Light is not blocked by object B and object C
3) Object A allows light to pass through while object B does not.
4) Object A allows light to pass through while object C does not.

16. Alisha arranged three ring magnets P, Q and R on a wooden stick in 2 ways as shown below.



Arrangement 1 Arrangement 2

Then, **without flipping** the ring magnets over, she observed the following situation when the magnets were put together as shown below.



Arrangement 3

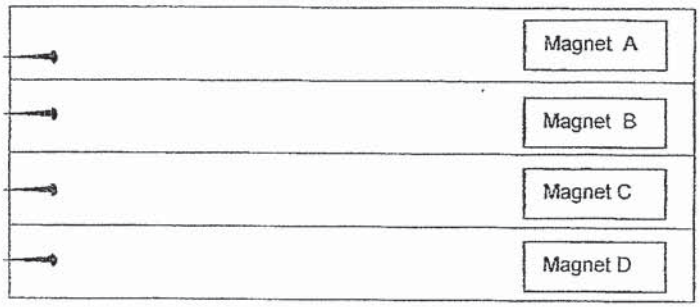
Which of the following will allow the situation in arrangement 3 shown above to occur?

	Position 1	Position 2	Position 3
1)	P	Q	R
2)	Q	P	R
3)	R	P	Q
4)	R	Q	P

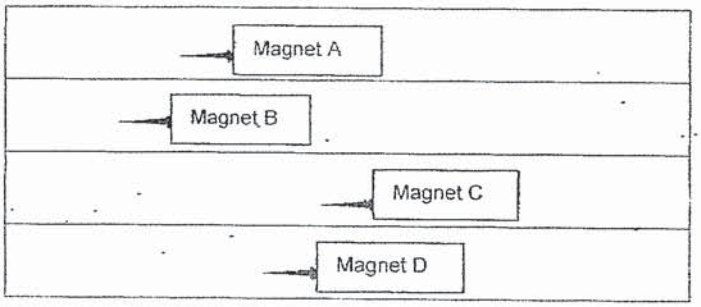
17. Sam set up an experiment to find out the magnetic strength of 4 bar magnets. He first placed the 4 bar magnets at equal distances away from the iron pins. He slowly moved each bar magnet towards the iron pin and stopped when the iron pin got attracted to it.

The diagrams below show the start and end of the experiment.

Start of the experiment



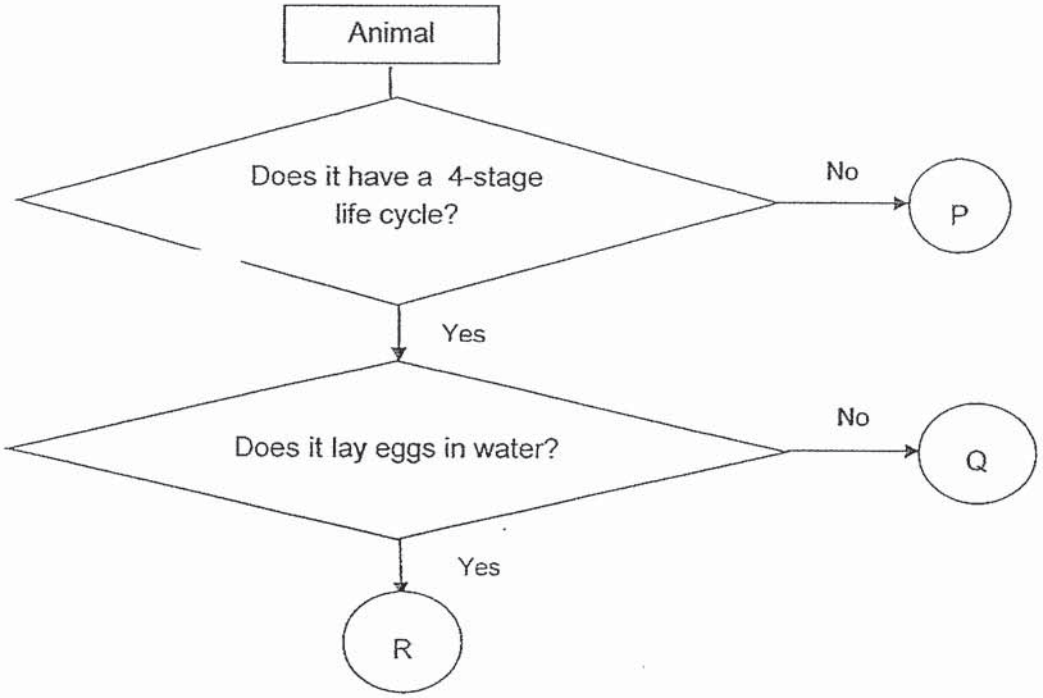
End of the experiment



Which one of the following shows the correct arrangement of the strength of the bar magnets from the weakest to the strongest?

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

18. Yi Ting drew a flow chart below on 3 different animals.



Based on the flow chart above, which of the following statements about P, Q and R is/are correct?

1) Both P and R lay their eggs in water.
2) Both P and Q have a 3-stage life cycles.
3) R spends part of its life cycle in water but Q does not.
4) R has a 4-stage life cycle but Q has a 3-stage life cycle.

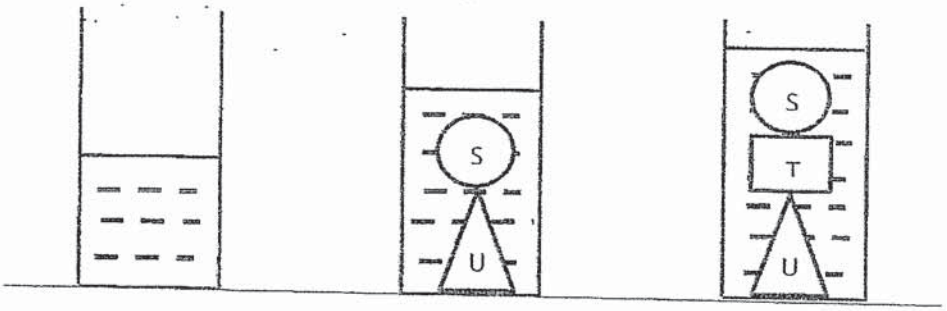
19. The table below shows the properties of three types of matter, P, Q and R.

	Matter P	Matter Q	Matter R
Has definite volume	Yes	Yes	No
Can be compressed	No	No	Yes
Takes up the shape of its container	No	Yes	Yes

Which of the following correctly represents P, Q and R?

	P	Q	R
1)	Cookie	Milk	Air
2)	Coin	Air	Oil
3)	Air	Milk	Cookie
4)	Apple	Ice	Oil

20. Study the set-up below carefully.

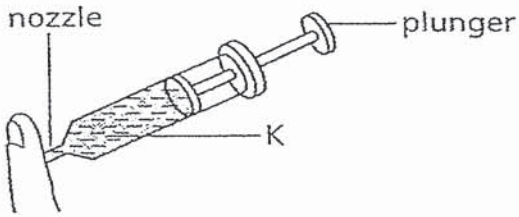


Sally poured 120 cm^3 of water into a measuring cylinder. She put 3 different solids, S, T and U into the measuring cylinder and noted the water levels.

What is the volume of solid T?

1) 25 cm^3
2) 30 cm^3
3) 60 cm^3
4) 85 cm^3

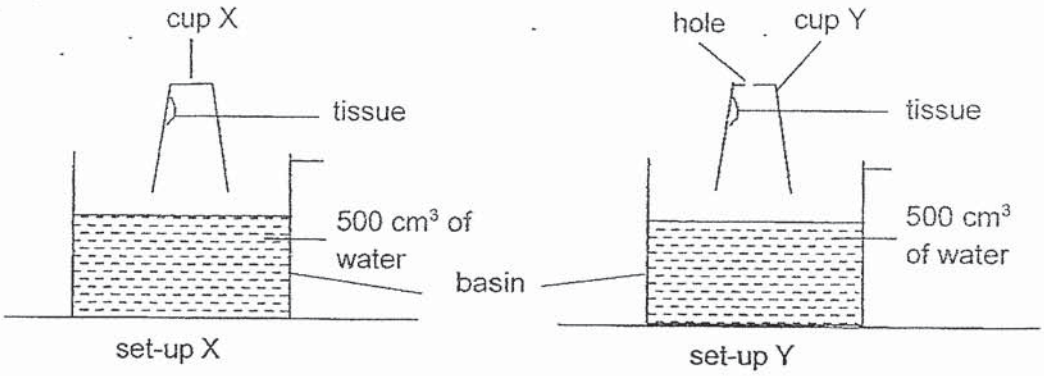
21. A syringe is filled with substance K. When the nozzle of the syringe is blocked, the plunger cannot be pushed inwards.



What can you tell from this observation?

1) K is not matter.
2) K has a definite shape.
3) K has a definite volume.
4) K has a definite shape and a definite volume.

22. Jayne conducted an experiment using set-ups, X and Y, as shown below. She attached a piece of dry tissue in each cup at the same position and secured it. She then made a hole in cup Y. Then she pushed the inverted cups into the respective basin of water.

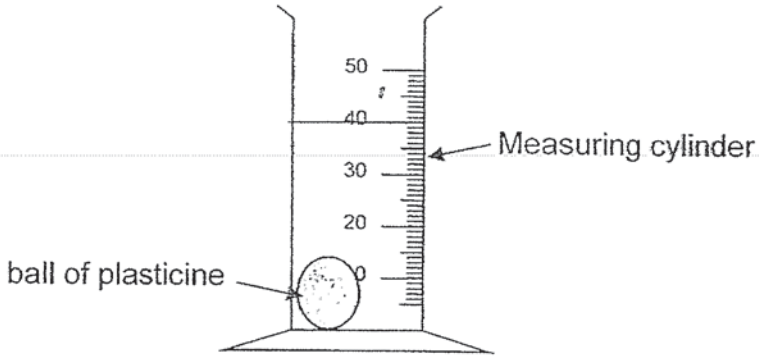


Which one of the following shows the correct observation?

Statement	Observation
A	Only the tissue in cup X became wet.
B	More water entered cup X than cup Y.
C	The water level in the basin of set up X will increase.
D	Tissue in cup Y will get wet.

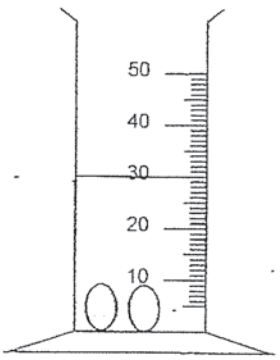
1) B only
2) B and D only
3) C and D only
4) A, B and C only

23. Gabriel put a ball of plasticine into a measuring cylinder. He noticed that the water level rose to the 40 cm^3 mark as shown in the diagram below.

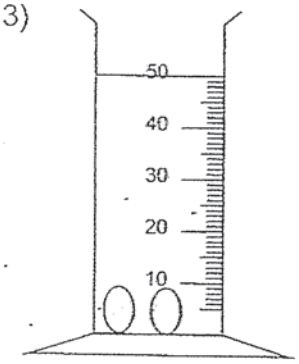


He then took the ball of plasticine out of the water, cut it into two pieces and lowered them gently into the water again. Which of the following diagrams show the correct water level in the measuring cylinder?

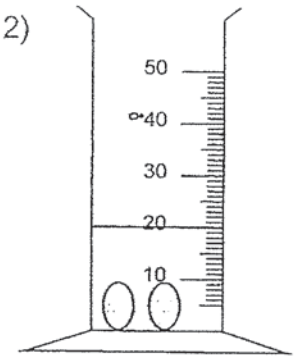
1)



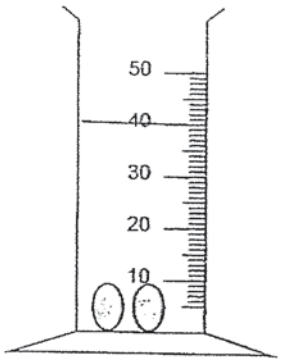
3)



2)

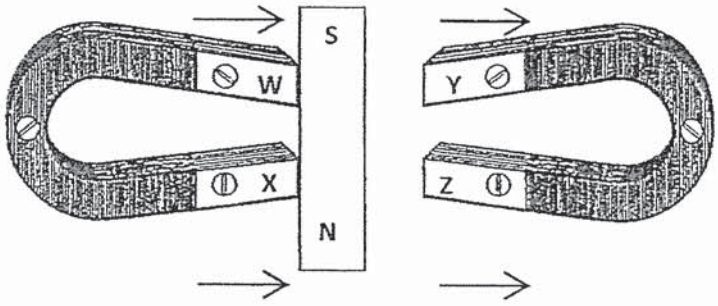


4)



24. Two horseshoe magnets were brought close to a bar magnet as shown in the diagram below.

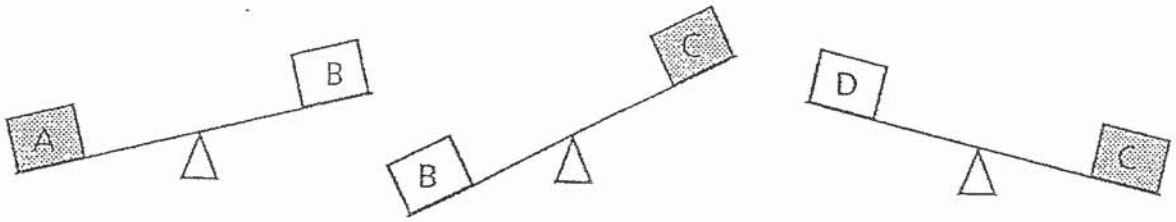
The arrows ⟶ show the directions in which the horseshoe magnets moved.



What are the poles W, X, Y and Z likely to be?

	W	X	Y	Z
1)	North	North	South	South
2)	North	South	South	North
3)	South	North	South	North
4)	South	South	North	North

25. Study the diagrams below carefully.



Arrange the objects' mass from the lighest to the heaviest.

1) A, B, C, D

2) B, C, D, A

3) C, B, A, D

4) D, C, B, A

SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2019

NAME: _____ ( ) DATE: 15 MAY 2019

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

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

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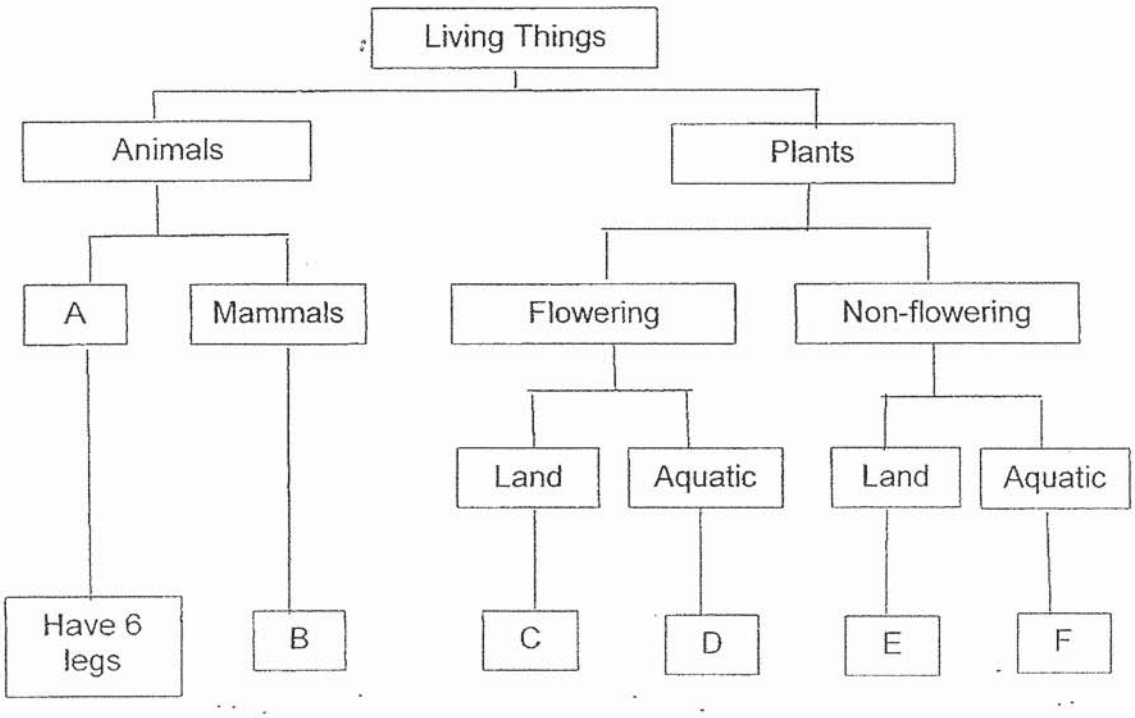
Part II (30 marks)

Answer all the following questions.

26. Study the classification table below.



a) Based on the classification table above, what is the difference between C and E? (1m)

_____

b) Give a suitable heading for A. (1m)

_____

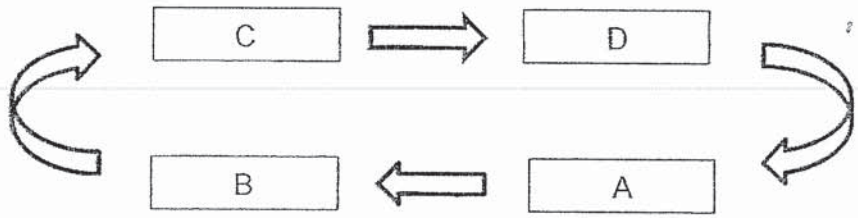
c) Write down a characteristic that you can list in B. (1m)

_____

3

27. The diagram below shows the life cycle of an insect X.

a) James observes that at stage A, the insect eats a lot and moults a few times.



Write down the names of the stages A, B, C and D of the life cycle in the table below. (1m)

Stage	Name of stage
A	
B	
C	
D	

b) Write down 1 similarity and 1 difference between the life cycle of the butterfly and the life cycle of the mosquito. (2m)

Similarity: _____

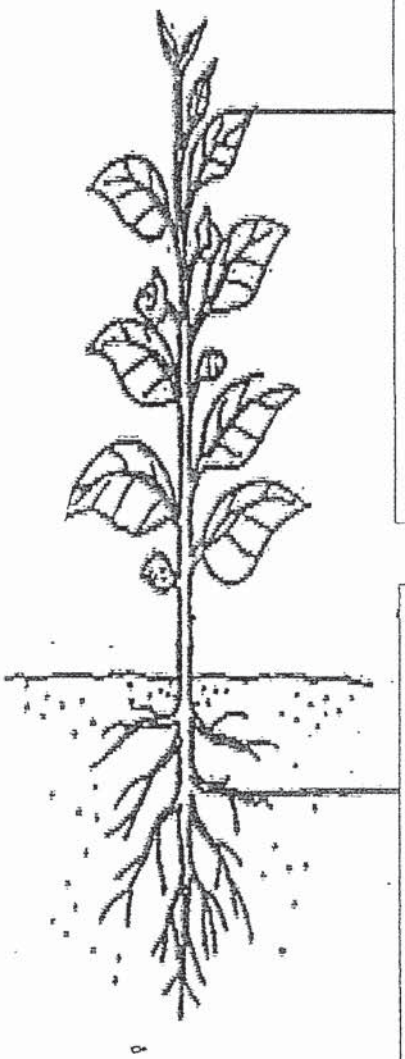
_____

Difference: _____

_____

3

28. Look at the diagram of a plant below. Name the parts A and B and state one function for each part. (4m)



a) Part : _____

Function: _____

_____

_____

_____

b) Part : _____

Function: _____

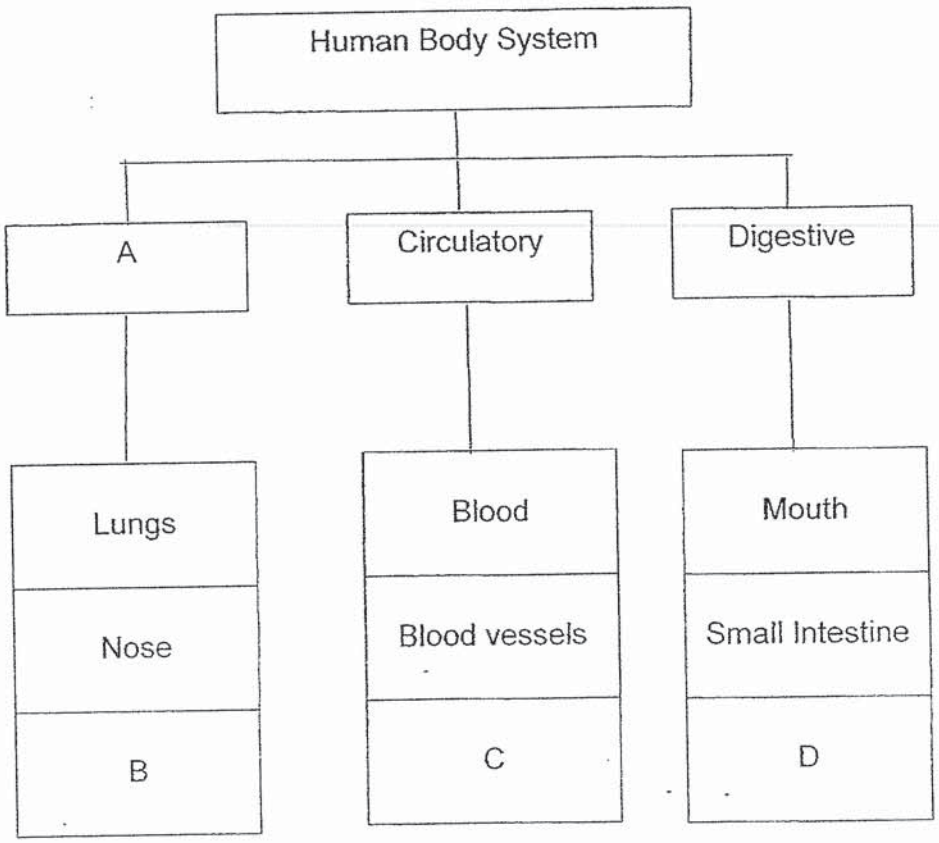
_____

_____

_____

4

29. Study the Human Body System below.



Fill in the blanks with a correct word each. (2m)

System A: _____

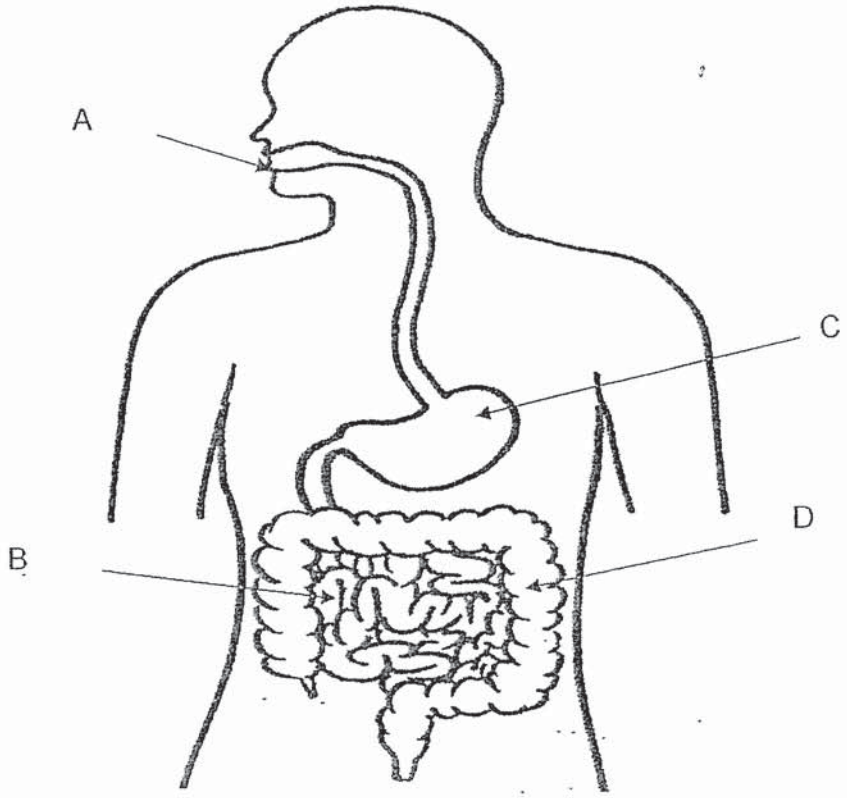
Organ B: _____

Organ C: _____

Organ D: _____

2

30. The diagram below shows the human digestive system.

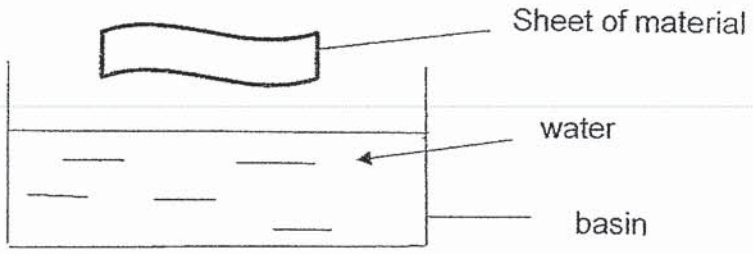


Match the different parts (A, B, C or D) to their function by writing the letters (A, B, C and D) in the table below. (2m)

	Part	Function
i)		Digestion is completed
ii)		Food is broken down by saliva
iii)		Water is removed
iv)		More digestive juices are added

2

31. Ginny had 4 sheets of different materials, A, B, C and D in different sizes. She wanted to find out how absorbent these materials were. She measured the amount of water left in the basins after putting the materials in and taking them out.



She recoded the results in the table below.

Material	Volume of water in the basin at the start of the experiment / cm^3	Volume of water left in the basin at the end of the experiment / cm^3
A	100	50
B	100	60
C	100	70
D	100	100

a) Based on the results, which material absorbed the most amount of water? Explain your answer. (1m)

_____

_____

b) Her father saw her conducting the experiment and told her it was not a fair test. Why? (1m)

_____

_____

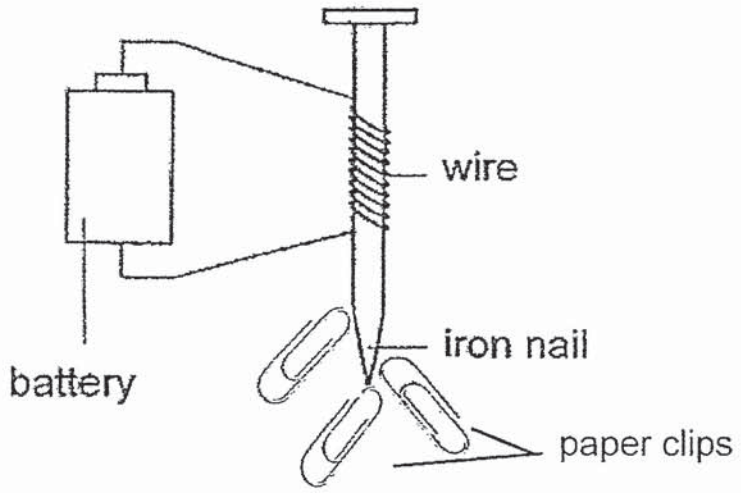
c) Which material is the most suitable for making a raincoat? Explain your answer. (2m)

_____

_____

4

32. Study the set-up shown below.



a) What will you observe if the battery is removed from the set-up shown above? (1m)

_____

_____

b) Suggest 2 ways that you can change the set-up to make the iron nail attract more paper clips. (2m)

Method 1: _____

Method 2: _____

3

33. Sam has a football which he fully inflated after 2 full pumps of air. He continued pumping in air and he recorded the mass after every 2 pumps.

Inflated football of 480g

He pumped different amounts of air into the ball and weighed the ball. The results were shown in the table below.

a) Fill in the mass of the ball after 6 pumps of air. (1m)

Number of times he pushed the air pump	Mass of the ball after each pump /g
2	500
4	520
6	
8	560

b) Why was Sam able to pump in more air when the ball is fully inflated after 2 pumps? (1m)

_____

_____

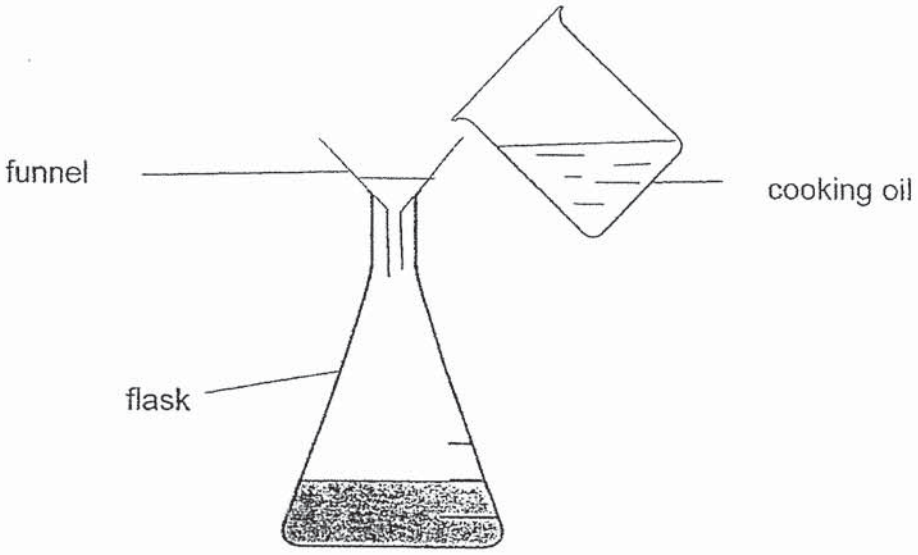
c) Based on the results in the table above, what is the relationship between the mass of the ball and the number of times he pumped? (1m)

_____

_____

3

34. Leela filled a flask with some cooking oil. She used a funnel to add in more cooking oil into the flask as shown in the diagram below. She noticed that the cooking oil could not flow in as quickly as before.



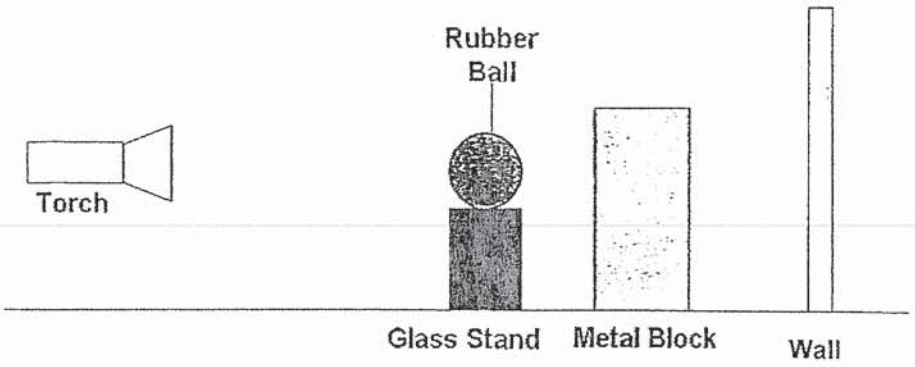
a) Explain why the cooking oil could not flow in quickly. (1m)

bi) Using the same equipment, suggest a way that will allow the oil to flow in faster. (1m)

bii) Give an explanation to your answer to bi). (1m)

3

35. Jenny set up the experiment below in a dark room.



a) When Jenny switched on the torch, she observed a dark shadow on the wall. Draw the shadow observed on the wall. (1m)

b) State 2 ways in which Jenny can make the shadow bigger? (2m)

i) _____

ii) _____

End of Booklet B

3

2019 PRIMARY 4 SCIENCE SA1

Part I

1) 2	6) 2	11) 3	16) 2	21) 3
2) 4	7) 2	12) 4	17) 2	22) 3
3) 1	8) 3	13) 4	18) 3	23) 4
4) 4	9) 2	14) 1	19) 1	24) 2
5) 1	10) 1	15) 3	20) 3	25) 4

Part II

Question No.	Suggested Answer
26	a) C is a flowering plant but E is a nonflowering plant. b) Insects c) Suckle their young, Have hair/fur on their body
27a	A:larva B: pupa C:adult D:egg
27b	**Similarity:** Both have 4-stage life cycle. OR Both young do not look like the adult. **Difference:** The butterfly lays eggs on land but the mosquito lay eggs in water OR The butterfly spends its entire land on land but the mosquito spends part of its life in water.
28	a) leaf Function: perform gaseous exchange for the plant OR make food for the plant b) root Function: absorb water (and mineral salts) for the plant OR hold the plant firmly to the soil/ ground.
29	A: Respiratory B:Windpipe / diaphragm C: Heart D: Anus / large intestine/ gullet / stomach
30	i) B ii) A iii) D iv) C/ B
31	a) Material A. The volume of water left in the basin at the end of the experiment was the least. b) Ginny changed the size of the materials and the type of materials. c) Material D. Material D did not absorb any water, showing that it is waterproof and the raincoat has to be waterproof so that the wearer will not get wet.
32	a) The paper clips will drop off. Increase the number of / strength of batteries. Increase the number of coils around the iron nail.
33	a) 540 b) As air can be compressed, Sam was able to pump in more air. c) As the number of pumps increases, the mass of the ball also increases.
34	a) The air in the flask occupied space but could not escape. bi) Lift the funnel up bii) When the funnel is lifted up, the air can escape, allowing the cooking oil to enter the flask to occupy the space previously occupied by air.
35	a)  bi) Move the metal block away from the wall. bii) Move the torch nearer the metal block.

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