SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2018

NAME: _____ ( )

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

DATE: MONDAY 7 MAY 2018

Parent's Signature:

SCIENCE

BOOKLET A

25 questions

50 marks

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

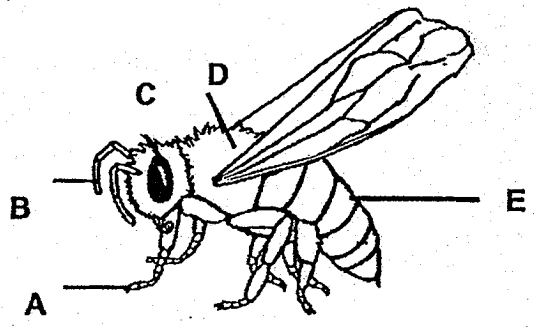
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

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. The picture below shows a honeybee.



Which of the following parts are labelled correctly?

	Antenna	Thorax	Abdomen
(1)	A	C	D
(2)	A	D	E
(3)	B	C	D
(4)	B	D	E

2. The table below shows the properties of materials A, B and C. A tick (√) indicates that the material has the property.

Material	Properties			
	Flexible	Waterproof	Ability to float	Breaks easily
A	✓	✓	✓	
B	✓		✓	
C	✓			
D		✓	✓	✓

Which material, A, B, C or D, would you use to make a shower cap to keep the hair dry in the shower?

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

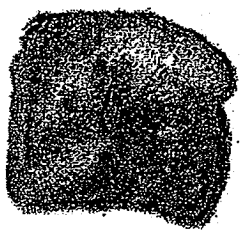
3. Which one of the following shows the correct order when food moves through part of the digestive system?

(1)	gullet → stomach → large intestine → small intestine
(2)	gullet → stomach → small intestine → large intestine
(3)	stomach → small intestine → gullet → large intestine
(4)	stomach → gullet → small intestine → large intestine

4. Which one of the following shows how water travels in a plant?

(1) stem → leaf → roots
(2) roots → stem → leaf
(3) stem → roots → leaf
(4) roots → fruit → flowers

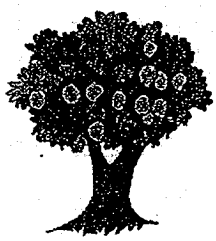
5. Which one of the following is a flowering plant?



(1) Bread Mould

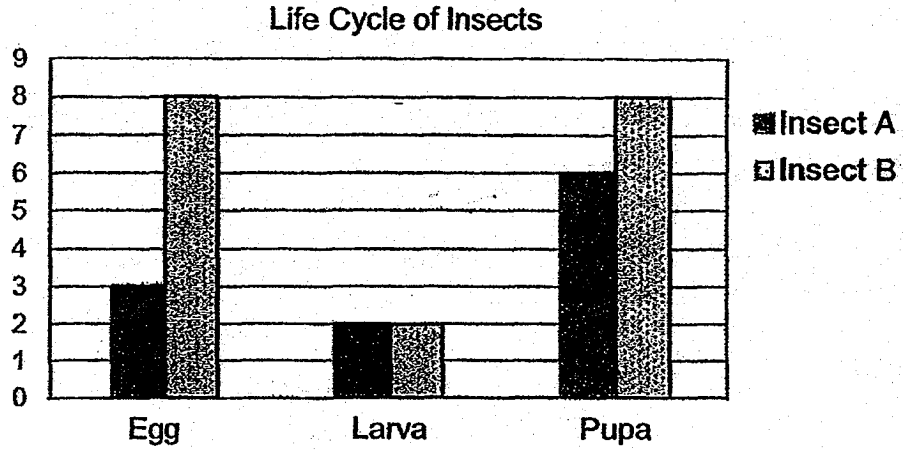
(3) Mushroom

(2) Bird's Nest Fern



(4) Mango Tree

6. The diagram below shows the duration of the first 3 stages of the life cycles of Insect A and Insect B respectively.



Which of the following is most likely to represent Insect A and Insect B respectively 9 days after the eggs were hatched?

	Insect A	Insect B
(1)	Pupa	Larva
(2)	Pupa	Adult
(3)	Adult	Pupa
(4)	Adult	Adult

7. The characteristics of 3 types of living things, X, Y and Z, are shown in the table below.

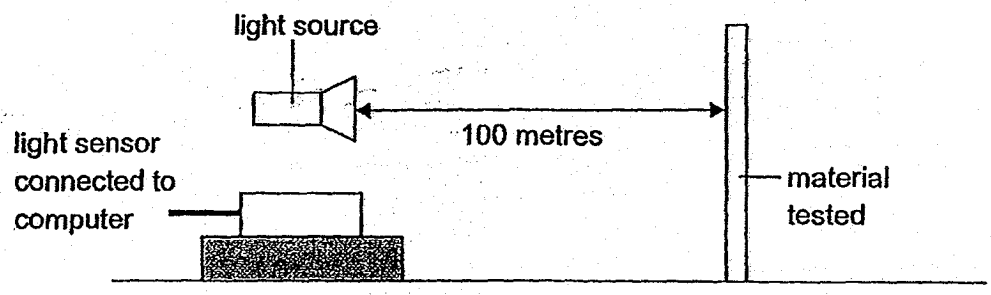
	X	Y	Z
Does it make its own food?	Yes	No	Yes
Can it produce flowers?	Yes	No	No

Which of the following statements is/are true?

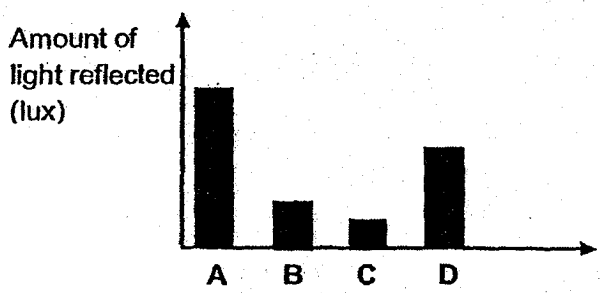
A: X and Z have green leaves.
B: X and Z reproduce by seeds.
C: Y and Z are ferns.
D: X is a flowering plant.

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

8. Daniel conducted an experiment to find out the amount of light reflected by four different materials, A, B, C and D. He set up his experiment as shown in the diagram below.



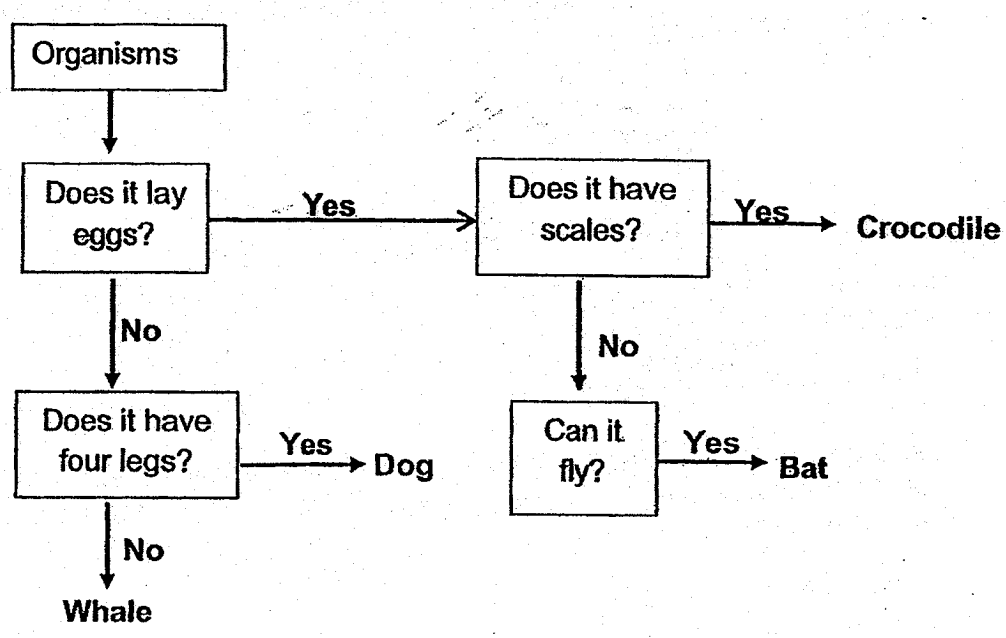
He placed the material at 100 metres away from the light source and he used a light sensor to record the amount of light reflected. The results are shown in the graph below.



Based on the results of his experiment, which material would be most suitable to make the letterings of a signboard along the road so that motorists can see them clearly from far away at night?

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

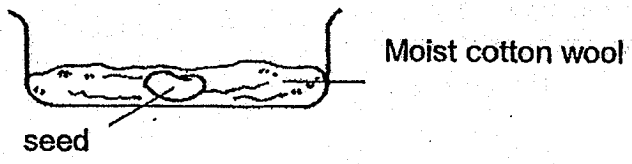
9. Study the flowchart below.



Which animal is classified **wrongly**?

(1) Crocodile
(2) Whale
(3) Dog
(4) Bat

10. Rachel wanted to find out what is the best temperature for seed germination and prepared 4 set-ups similar to the one shown in the diagram below.



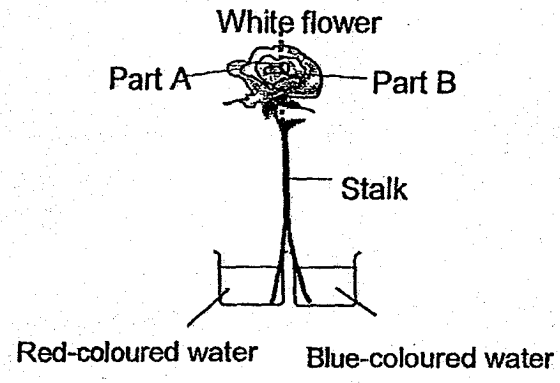
She placed the 4 set-ups at different locations as shown in the table below.

Set-up	Location	Temperature
A	In the oven	85°C
B	In the fridge	2°C
C	In the cupboard	26°C
D	In the classroom	30°C

In which 2 set-ups would the seed germinate?

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

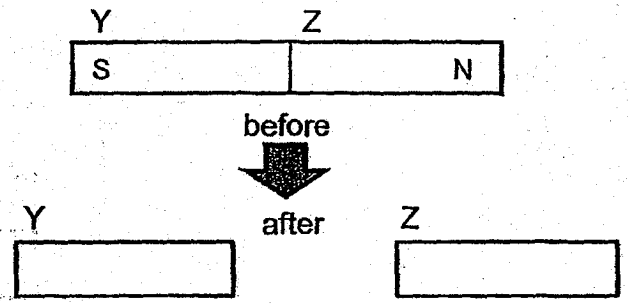
11. Eve split the stalk of white flower into 2 halves! She placed half of the stalk in red-coloured water and the other half in blue-coloured water as shown below. The set-up was left overnight.



The next day, what would Eve observed?

	Part A	Part B
(1)	White	White
(2)	Blue	Red
(3)	Red	Blue
(4)	Purple	Purple

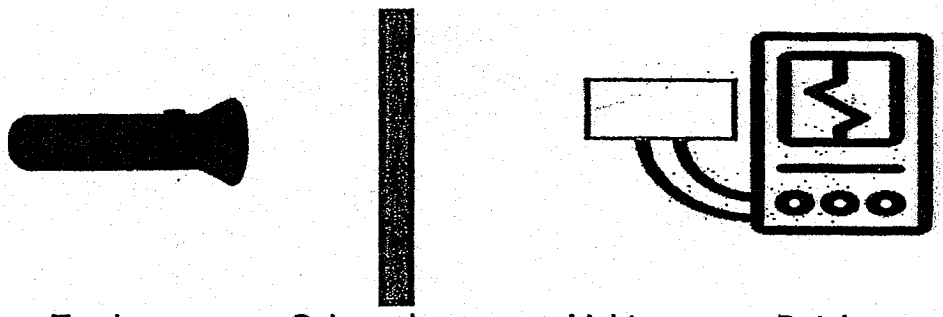
12. Paul broke a bar magnet into two pieces.



Which of the following shows what poles Y and Z are?

	Y	Z
(1)	North	North
(2)	South	South
(3)	North	South
(4)	South	North

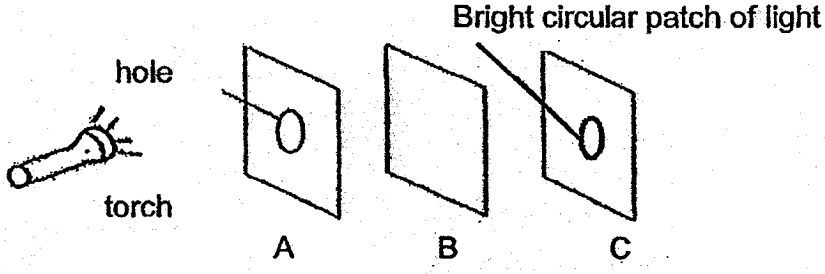
13. Sammi used the set-up below to find out how different types of coloured paper affects the amount of light that passes through it.



Which of the following must Sammi change to conduct the experiment?

(1) Types of coloured paper
(2) Amount of light that passes through the coloured paper
(3) Distance of torchlight to the coloured paper
(4) Thickness of coloured paper

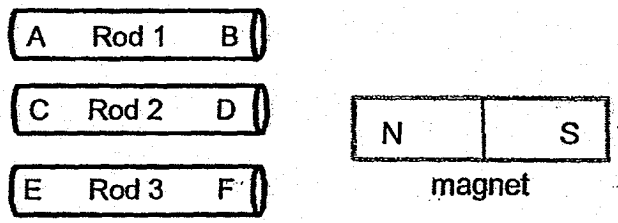
14. Pamela conducted the experiment as shown below in a dark room. The sheets, A, B and C, are arranged in a straight line. When the torch is turned on, a circular patch of bright light is seen on sheet C only.



Which of the following materials are sheets A, B and C made of respectively?

	Sheet A	Sheet B	Sheet C
(1)	Wood	Clear plastic	Rubber
(2)	Rubber	Wood	Clear plastic
(3)	Clear plastic	Wood	Rubber
(4)	Clear plastic	Clear plastic	Wood

15. Jimmy has three rods, 1, 2 and 3 as shown below. They are made of different materials.



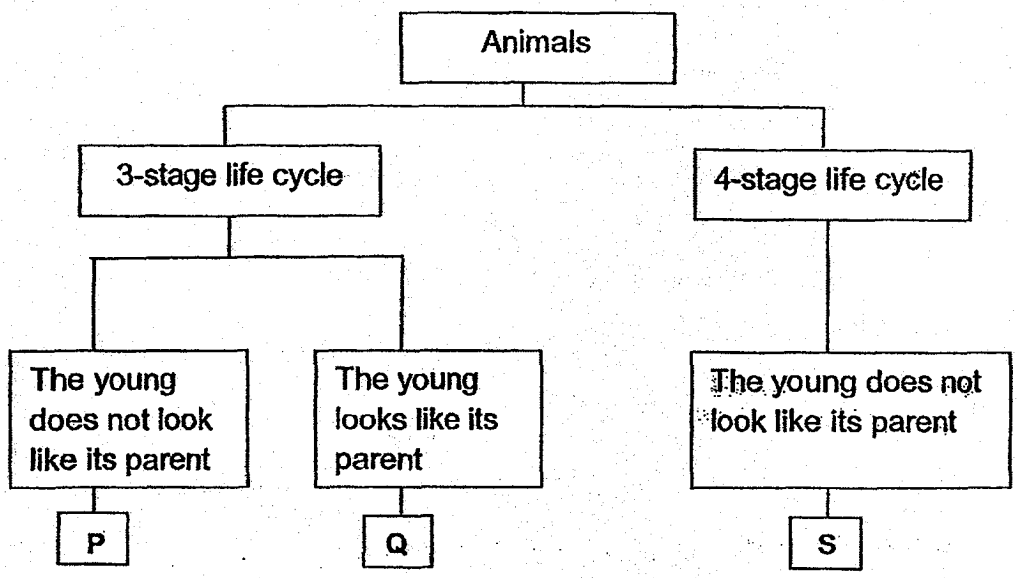
When a magnet is placed near the ends of each rod at a time, he observed the following results.

Rod	End	Response to North Pole	Response to South Pole
1	A	Attracted	Attracted
	B	Attracted	Attracted
2	C	Did not move	Did not move
	D	Did not move	Did not move
3	E	Attracted	Repelled
	F	Repelled	Attracted

Identify the materials of Rod 1, 2 and 3.

	Rod 1	Rod 2	Rod 3
(1)	Copper	Iron	Steel
(2)	Steel	Plastic	Copper
(3)	Iron	Plastic	Steel
(4)	Aluminium	Steel	Iron

16. Study the classification chart below. P, Q and S represent 3 different animals.



Which of the following animals represent P, Q and S ?

	P	Q	S
(1)	Frog	Cockroach	Mealworm Beetle
(2)	Grasshopper	Mealworm Beetle	Cockroach
(3)	Frog	Mealworm Beetle	Cockroach
(4)	Grasshopper	Cockroach	Mealworm Beetle

17. Annie conducted an experiment to find out if the amount of sunlight affected the rate of growth of a plant. She listed the following variables below:

A : Amount of sunlight

B : Amount of water

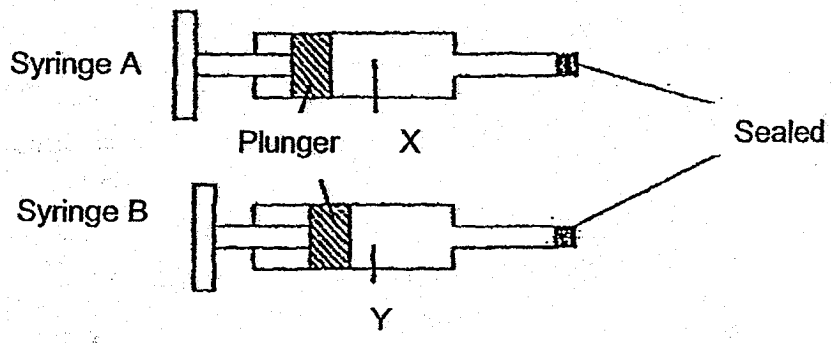
C : Type of seed

D : Duration of experiment

Which variables should Annie keep the same in order to conduct a fair test?

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

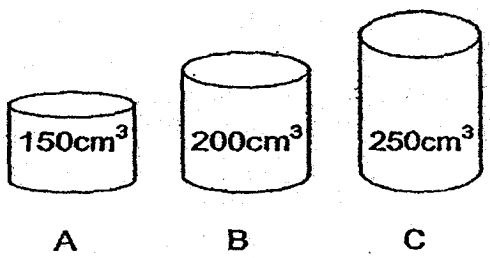
18. Two syringes, A and B, contained substances X and Y respectively. The nozzles of the syringes were sealed. The plunger in syringe A could not be pushed in while the plunger in syringe B could be pushed in slightly as shown in the diagram below.



Which of the following substances are most likely to be X and Y?

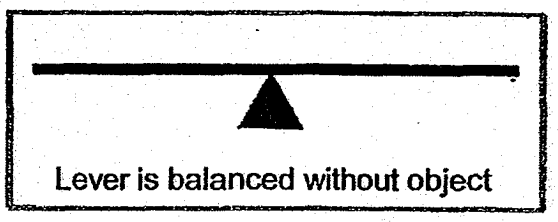
	X	Y
(1)	Liquid	Solid
(2)	Gas	Liquid
(3)	Liquid	Gas
(4)	Solid	Liquid

19. Tom wants to transfer 200cm^3 of oxygen into each of the containers A, B and C. Which of the following containers can he use to hold all of the oxygen?

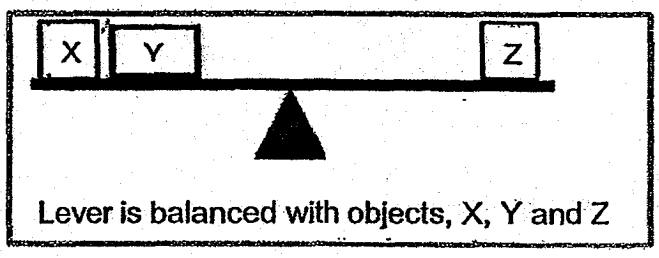


(1) B only
(2) C only
(3) B and C only
(4) A, B and C

20. Charlie carried out an experiment as shown in the setup below.



He placed objects X, Y and Z on the balance as shown in diagram below.



Which of the following can be concluded from the setup above?

(1) Object X has a greater mass than Object Z.

(2) Object Y has a greater mass than Object Z.

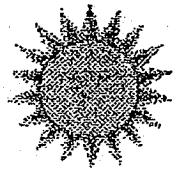
(3) Object Y has the greatest mass.

(4) Object Z has the greatest mass.

21. Which of the following does not have mass ?

(1) feather
(2) lightning
(3) ping pong ball
(4) water

22. Which of the following is **not** a source of light?



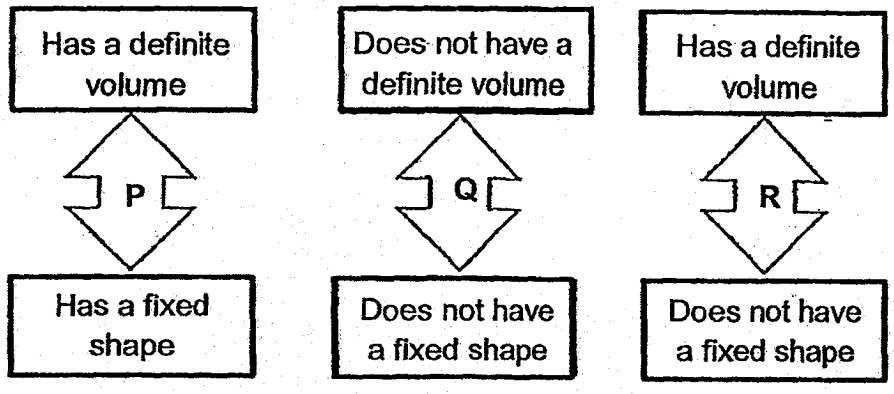
(1) Sun

(3) Mirror

(2) Lighted bulb

(4) Fire

23. Study the diagram below.



Which of the following could be P Q and R?

	P	Q	R
(1)	Water	Ice	Sand
(2)	Juice	Oxygen	Water
(3)	Paper	Oxygen	Juice
(4)	Ice	Sand	Oxygen

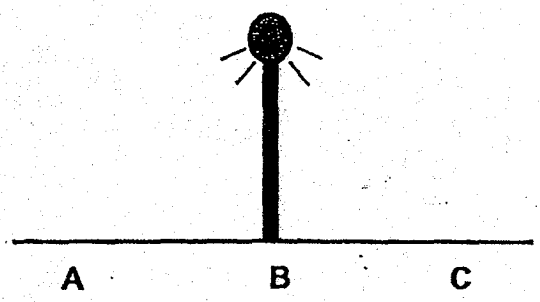
24. The table below shows properties of K, L, M and N.

Properties	K	L	M	N
Has a definite shape				√
Has a definite volume			√	√
Can be seen	√	√	√	√
Can be compressed		√		
Can occupy space		√	√	√

Which one, K, L, M or N, is an ice cube?

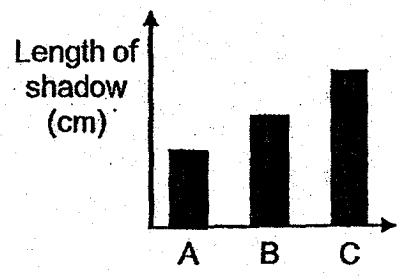
(1) K
(2) L
(3) M
(4) N

25. Amy walked past a lighted street lamp from A to C on a dark night.

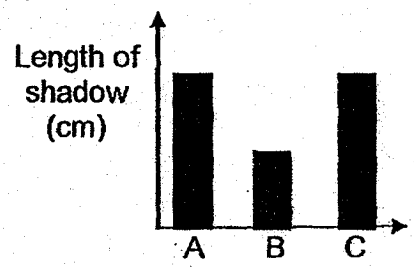


Which one of the following shows the likely changes in the length of Amy's shadow when she walked past the lighted street lamp from A to C?

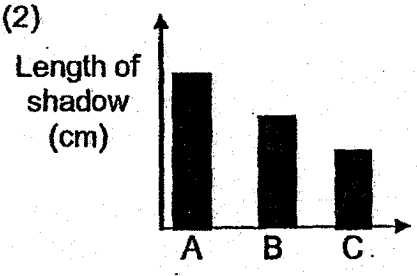
(1)



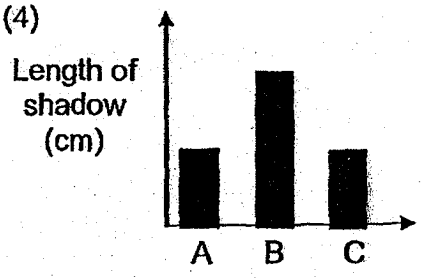
(3)



(2)



(4)



End of Booklet A

SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2018

NAME: _____( ) DATE: MONDAY 7 MAY 2018

CLASS: PRIMARY 4

Parent's Signature:

_____

SCIENCE

BOOKLET B

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

9 questions

30 marks

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

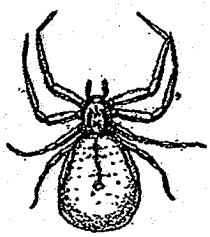
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

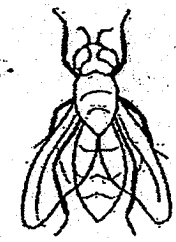
Part II (30 marks)

Answer all the following questions.

26. Study the 2 animals below.



Animal A



Animal B

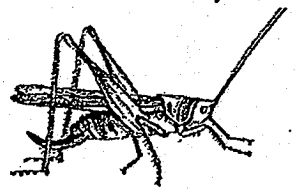
(a) Based on what you can see only, state two differences between the two animals. (2m)

(i) _____

_____

(ii) _____

(b) Study the animal below and compare it to Animals A and B.



Animal C

Which animal, A or B, is Animal C more similar to? Explain your answer. (1m)

_____

(c) State 1 similarity between the life cycle of a grasshopper and a cockroach. (1m)

_____

_____

4

27. Study the characteristics of the four living organisms, D, E, F and G, shown below.

	Living organisms			
Characteristics	**D**	**E**	**F**	**G**
Found on land	√		√	√
Bear flowers	√	√		
Reproduce from spores				√

(a) Describe Organism D. (1m)

_____

_____

(b) Based on the characteristics of the four living organisms above, match the letters (D, E, F or G) to the ones shown below. (2m)

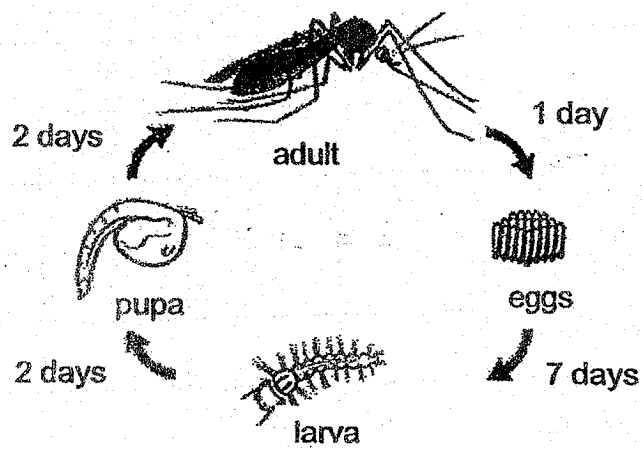
	Living organisms	Letter
(i)	 Bracket fungus	
(ii)	 Water lily	

(c) Based on the characteristics in the table above, state a difference between bracket fungus and water lily. (1m)

_____

_____

28. The diagram below shows a detailed life cycle of a mosquito.



(a) State a similarity between the life cycle of a mosquito and a frog. (1m)

_____

(b) Which stage(s) of the life cycle of the mosquito is/are found in water? (1m)

_____

(c) How long does it take for the mosquito to become an adult after the egg is laid? (1m)

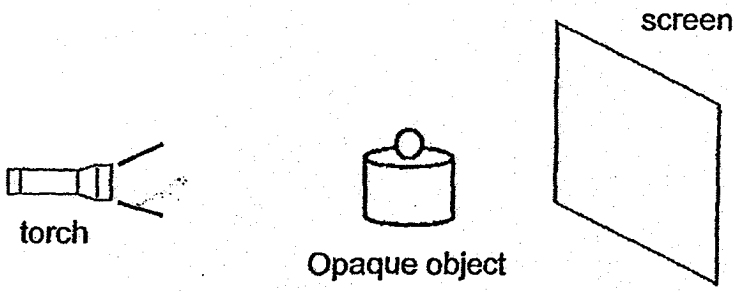
_____

(d) Give one reason why getting rid of stagnant water will reduce the number of mosquitoes. (1m)

_____

4

29. Study the set-up below. When a torch is switched on, a shadow is formed on the screen.



(a) Draw the shadow of the object on the screen provided below. (1m)

(b) **Without moving the torch**, state 2 ways that will cause a smaller shadow to be formed on the screen. (2m)

(i) _____

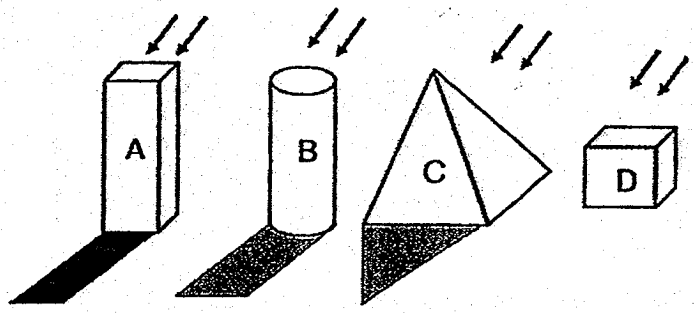
_____

(ii) _____

_____

3

30. John placed four objects, A, B, C and D on the floor in a dark room. He shone a torchlight on the objects and recorded his observations of the shadows in the diagram below.



Based on the above observations, classify the four objects, A, B, C and D, in the table below. (2m)

Amount of light allowed to pass through		
Most	**Some**	**None**

31. Mervin carried out an experiment on the germination of seeds of two plants, Plant X and Plant Y. The seeds were placed in a room with suitable conditions for germination and the mass of Plants X and Y was recorded over a period of 9 days as shown in the table below.

	Mass of Plant (g)				
Plant	**Day 1**	**Day 3**	**Day 5**	**Day 7**	**Day 9**
X	1	0.8	0.6	0.4	0.2
Y	0.4	0.4	0.4	0.6	0.8

(a) Mervin made a mistake in the results of one of the plants. Which plant did he record the results wrongly? (1m)

Plant _____.

(b) Mervin cut off the seed leaves for both plants X and Y on Day 10 of his experiment. He noticed that both plants still continued to grow healthily. Explain how the plants were still able to survive after the seed leaves were cut off. (2m)

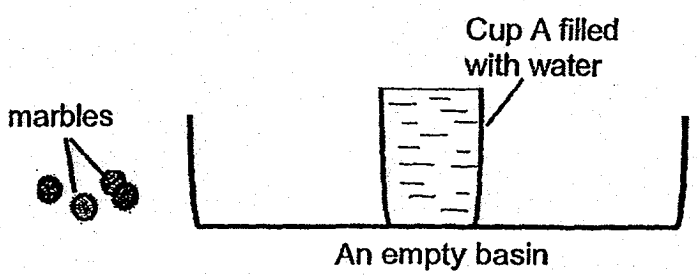
_____

_____

5

32. Jared filled Cup A with water to the brim and placed it in an empty basin.

(a) Jared had some marbles.



(i) Without touching or tilting Cup A and the basin, suggest how Jared can transfer some water from Cup A into the basin. (1m)

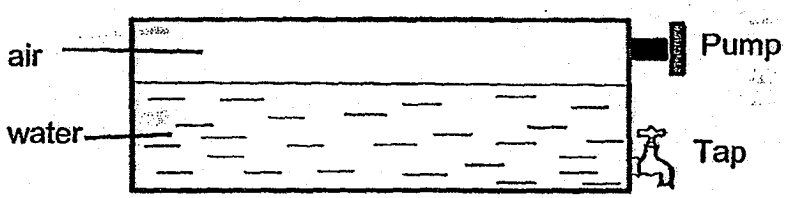
_____

_____

(ii) Using the method in (i), what does the amount of water transferred into the basin represent? (1m)

_____

(b) The capacity of the tank below is $300cm^3$. It is filled with $200cm^3$ of water and $100cm^3$ of air.
Jared removed $50cm^3$ of water using the tap and then pumped in $100cm^3$ of air into the sealed tank.

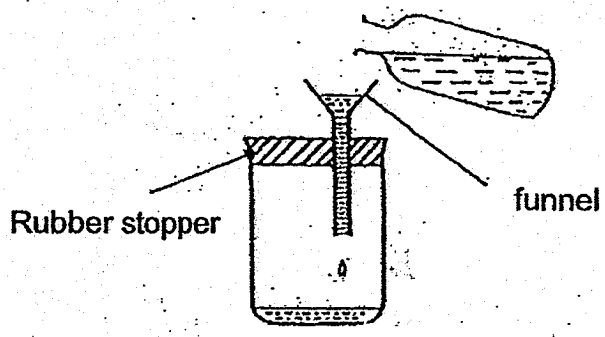


Sealed tank

Complete the table below to indicate the final volume of the water and air in the sealed tank. (2m)

	Before (cm^3)	After (cm^3)
Air	100	
Water	200	

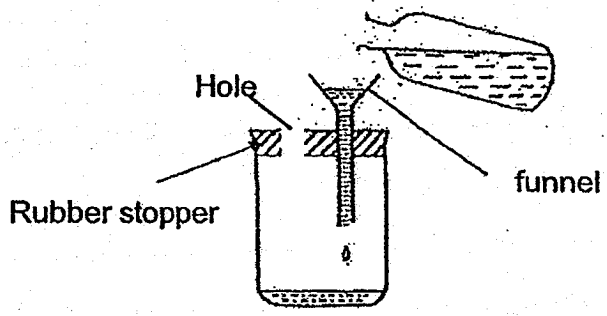
33. Ken set up the experiment as shown below. He observed that water dripped into the beaker at a very slow rate.



(a) Give a reason why the water drips into the beaker so slowly. (1m)

_____

(b) Ken made a hole in the stopper as shown below.



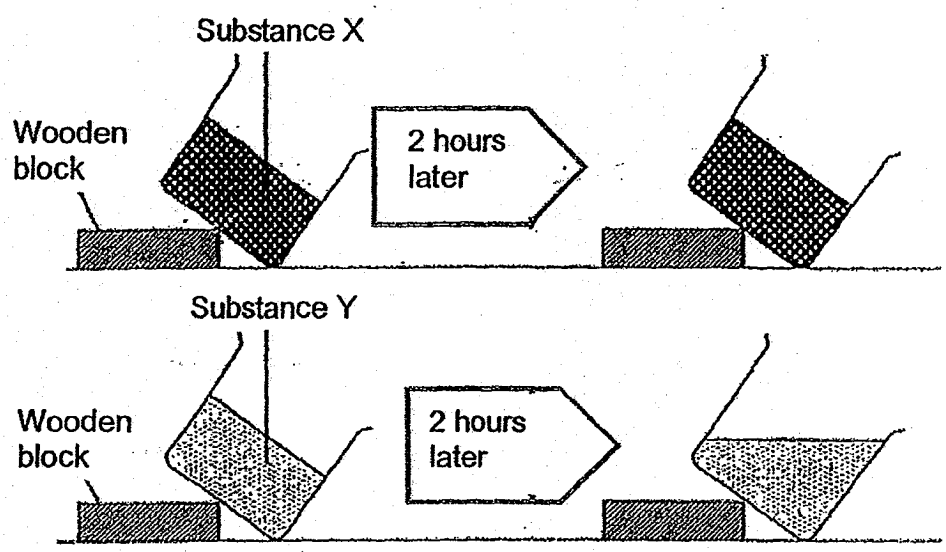
Ken noticed that the water can flow faster after making a hole in the rubber stopper. Explain why the water can flow faster. (2m)

_____

_____

3

34. Jamie set up an experiment in the classroom as shown below. She tilted the 2 beakers and observed the shape of Substances X and Y.



(a) Based on the diagram above, what is the state of Substances X and Y after 2 hours? (2m)

Substance X: _____

Substance Y: _____

(b) Explain your answer in (a). (1m)

_____

_____

End of Booklet B

3

EXAM PAPER 2018 (P4)

SCHOOL : SCGS

SUBJECT : SCIENCE

TERM : SA1

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

Name: _____ Class: _____

P4 SCIENCE SA1 2018 OPEN-ENDED ANSWERS

All Science concepts (in bold) must be clearly shown.
In cases where they are unclear or not shown, marks will not be awarded.

Qn No.	Answer
26a	Any 2 of the following: Animal A **has 8 legs** but Animal B **has 6 legs** OR Animal A **does not have a pair of wings** but Animal B **has a pair of wings** OR Animal A **has 2 main body parts/segments** but Animal B **has 3 main body parts/segments.**
26b	Animal B **Because** Animal C **has 6 legs/ a pair of wings** like Animal B.
26c	Both **lay eggs** on land/ Both have **3-stage life cycle.**
27a	D **is found on land, bear flowers** (and do not reproduce from spores). *'Bear Flowers' already negates 'reproduce from spores' in this case.*
27b	Bracket Fungus – G ; Water lily – E
27c	Bracket fungus **reproduces from spores** while water lily **reproduces from seed.** OR Bracket fungus **is found on land** but water lily **is not found on land.**
28a	Both **lay eggs in water.** OR Both **spend part of their life cycles in water** (and part of their life cycles on land).
28b	Egg, larva, pupa
28c	11 days
28d	Mosquitoes have no place to breed/ lay eggs.

29a	
29b	Any two of the following: Move the **screen nearer to the object** OR Move the **object nearer to the screen** OR Move the **object away from the torch** *(Based on question - torch must not be moved)*
30	**Amount of light allowed to pass through** **Most**: D; **Some**: B and C; **None**: A
31a	Plant X.
31b	The seedlings has already grown its **green leaves** and which **can now make food/ photosynthesize for the plant.**
32ai	Put the marbles into Cup A
32aii	It represents the **volume of the marbles.**
32b	Air : 150cm^3 Water : 150cm^3
33a	Air **in the beaker occupies space** and cannot escape.
33b	**Air in the beaker can escape through the hole** AND **water flow in to take the space previously occupied by air.**
34a	Substance X : Solid Substance Y : Liquid
34b	**Substance X keeps its shape / has a definite shape** when the beaker is tilted BUT **Substance Y does not have a definite shape /** is unable to keep its shape when the beaker is tilted. *(Must specify which is Substance X and Y)*