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SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2020

SCIENCE

PRIMARY FIVE

NAME: _____ ( ) DATE: 27 October 2020

CLASS: PRIMARY 5 SY / C / G / SE / P

BOOKLET A

28 questions

56 marks

Total time for Booklets A & B: 1 h 45 min

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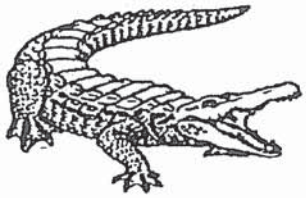
Booklet A (56 marks)

For each question from 1 to 28, 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. Study the classification table below.

Group A	Group B
 bat	 crocodile
 zebra	 parrot

How are the above animals classified?

1) Where they live
2) The way they move
3) Their number of legs
4) The way they reproduce

2. Organism X lives in the school garden and its characteristics are noted as follows:
   - needs air
   - unable to fly
   - able to reproduce
   - can make its own food

Which one of the following could Organism X be?

1) ant
2) frog
3) rose plant
4) mushroom

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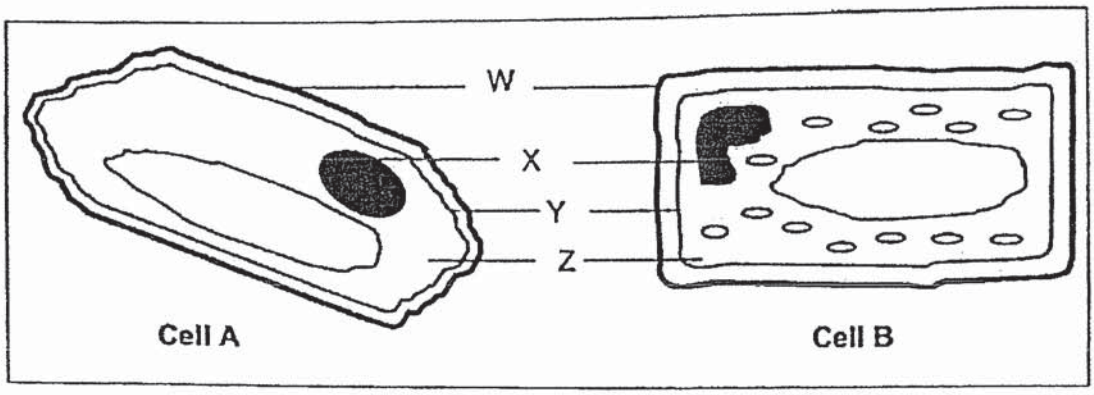
3. Which one of the following statements is true about the digestive system?

1) Digestion begins in the stomach.
2) Digested food is absorbed in the gullet.
3) Water is absorbed in the large intestine.
4) Undigested food is absorbed in the small intestine.

4. The diagrams below show two different cells, A and B, from the same plant.



Which part of the cell, W, X, Y or Z, controls cellular activities in a cell?

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

5. The differences between inhaled and exhaled air are shown in the table. Which of the following are correct?

	Inhaled Air	Exhaled Air
A	Is warmer	Is cooler
B	Contains more oxygen	Contains less oxygen
C	Contains less water vapour	Contains more water vapour
D	Contains some nitrogen	Contains some nitrogen

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

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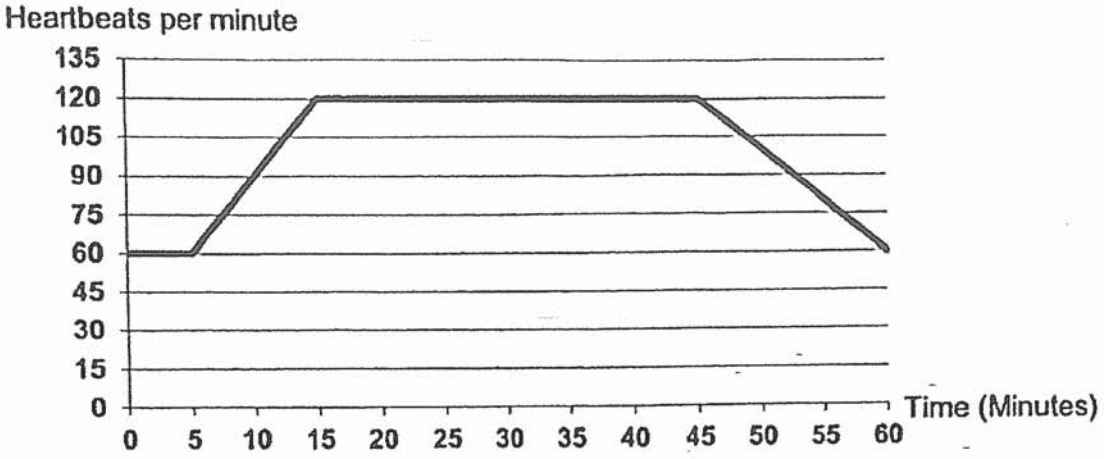
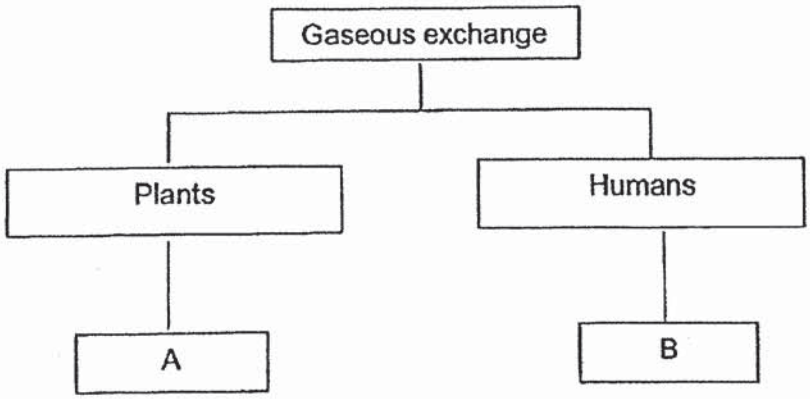
6. Minghua recorded his heartbeat rate within 1 hour. He plotted a graph with the data he obtained as shown below.



Based on the graph above, how long did Minghua exercise?

1) 30 minutes
2) 35 minutes
3) 40 minutes
4) 60 minutes

7. Look at the classification chart below.



Which of the following represent **A** and **B** correctly?

	A	B
1)	leaves	gullet
2)	roots	windpipe
3)	stem	nose
4)	stomata	lungs

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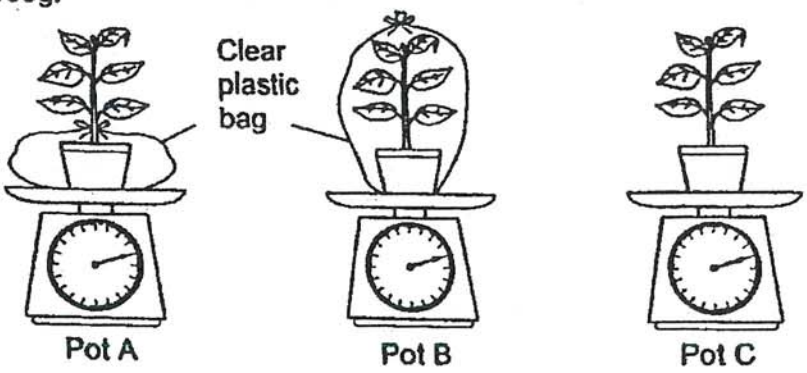
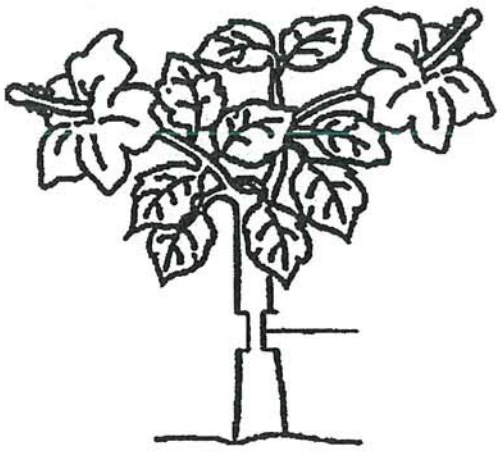
8. William conducted an experiment using three similar potted plants, A, B and C. He watered the three potted plants with the same amount of water and placed them in a garden. The mass of each potted plant at the start of the experiment was 2000g.



Which of the following is correct about the mass of each potted plant after one day?

	Lightest →		Heaviest
1)	A	B	C
2)	B	A	C
3)	C	A	B
4)	C	B	A

9. Ben removed only the food-carrying tubes of the stem at X.



Why did the roots die after some time?

1) The roots could not take in mineral salts.
2) The roots were unable to keep the plant upright.
3) The stem could not transport food to the roots.
4) The stem could not transport water to the leaves.

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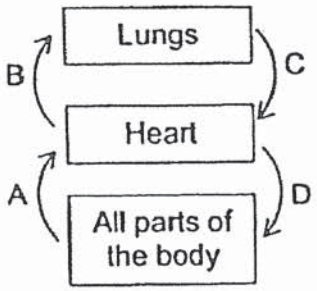
10. The diagram below shows the direction of blood flow in a human body.

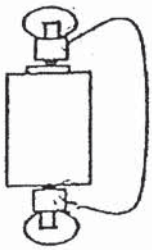


Oxygenated blood is blood rich in oxygen and deoxygenated blood is blood poor in oxygen. Which of the following describes the type of blood correctly?

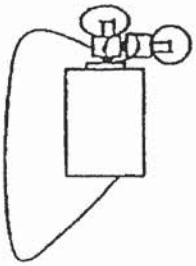
	A	B	C	D
1)	oxygenated	oxygenated	deoxygenated	deoxygenated
2)	deoxygenated	deoxygenated	oxygenated	oxygenated
3)	oxygenated	deoxygenated	oxygenated	deoxygenated
4)	deoxygenated	oxygenated	deoxygenated	oxygenated

11. Which one of the following electric circuits allows only 1 bulb to light up?

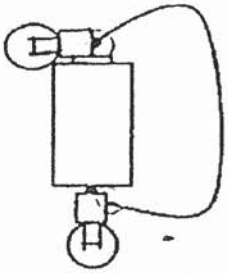
1)



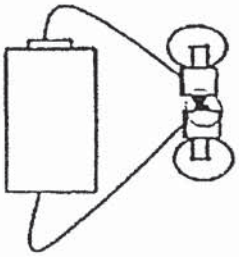
3)



2)



4)



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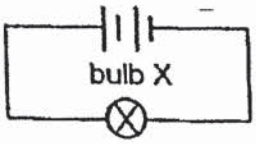
12. Which of the following materials are conductors of electricity?

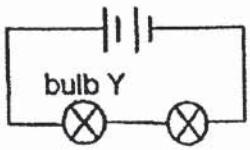
A: Aluminium
B: Cotton
C: Glass
D: Rubber
E: Silver

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

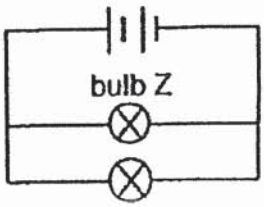
13. Study the three circuits, A, B and C, below.



circuit A



circuit B



circuit C

All the bulbs and batteries in the three circuits are the same. Which of the following statements about the brightness of the bulbs is/ are correct?

A: Bulb X is as bright as bulb Y.
B: Bulb X is as bright as bulb Z.
C: Bulb Z is brighter than bulb Y.
D: Bulb Z is brighter than bulb X.

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

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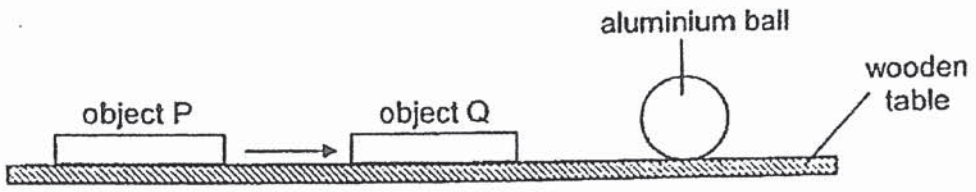
14. In the diagram below, when object P was slowly brought close to object Q, the aluminium ball was pushed off the wooden table by object Q.



What are objects P and Q likely to be?

	Object P	Object Q
1)	magnet	steel rod
2)	steel rod	magnet
3)	aluminium rod	steel rod
4)	magnet	magnet

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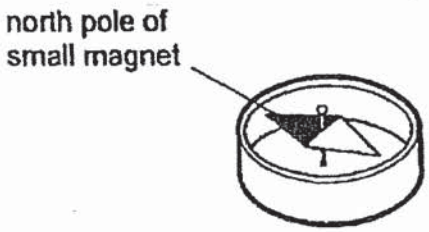
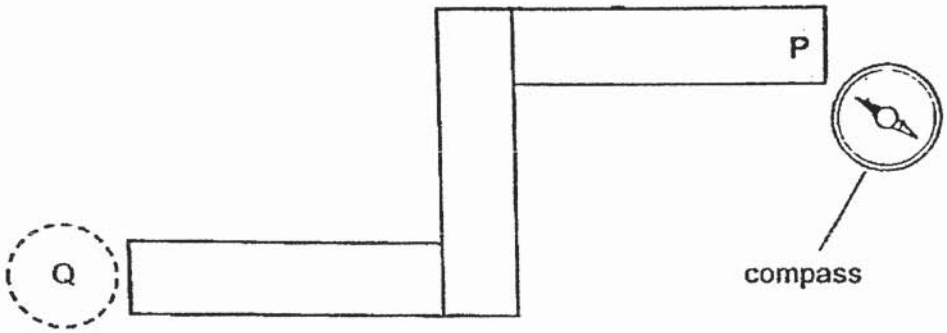
15. A compass has a small magnet that can rotate freely as shown.

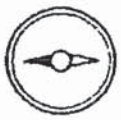


Three bar magnets were arranged in the figure shown below, where the ends were attracted to one another. A compass was placed at end P and the direction of the compass needle is shown in the figure below.



What would the direction of the needle be when the compass is placed at Q?

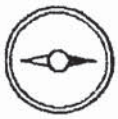
1)



3)

2)

4)



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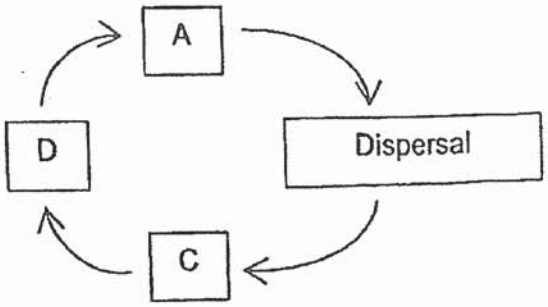
16. The diagram below shows the processes in the development of a plant.



The process of seed dispersal is shown above. When would the fruits develop?

1) At stage A
2) At stage C
3) At stage D
4) Between stages C and D

17. Jerry germinated a seed each from plants A, B and C. He recorded his observation of their growth in the table below.

Observation	Number of days after each seed was planted		
	A	B	C
Root appears	2	2	2
Shoot appears	3	3	3
First flower appears	30	20	40
First fruit appears	40	40	80

Based on the information above, which of the following statements is true?

1) Plant A was pollinated first.
2) Plant B was alive for the shortest period of time.
3) Plant C grew the greatest number of flowers.
4) All 3 seeds took the same amount of time to germinate.

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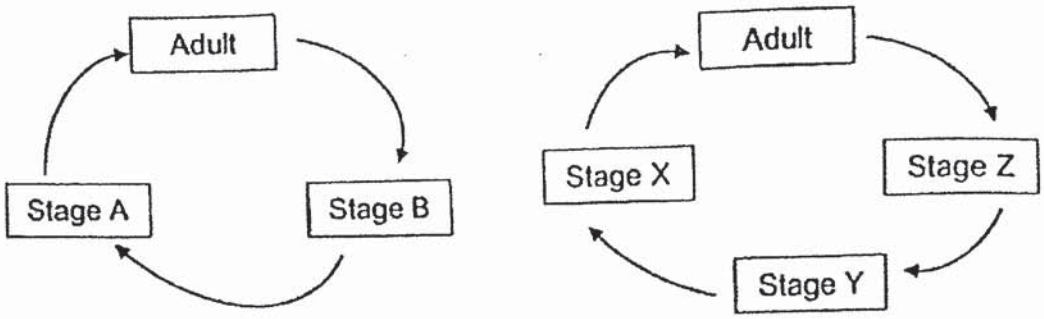
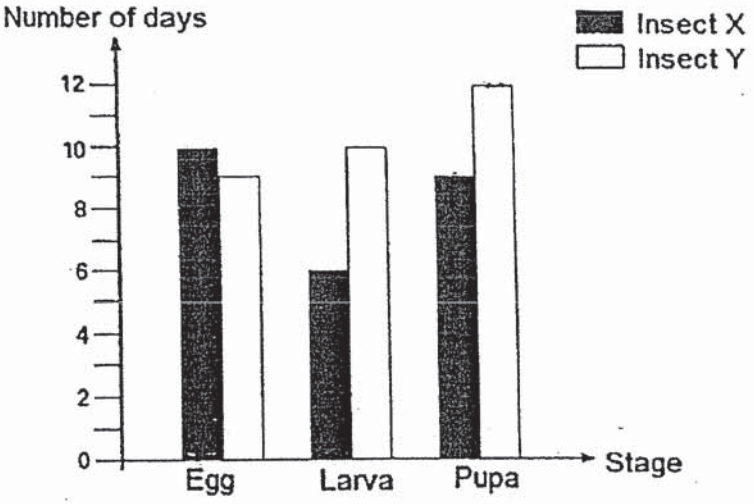
18. The diagrams below show the stages in the life cycles of two insects.



Based on the diagram above, which of the following could stages **A** and **X** be?

	Stage A	Stage X
1)	Egg	Larva
2)	Larva	Nymph
3)	Nymph	Egg
4)	Nymph	Pupa

19. The graph below shows the number of days each stage in the life cycle of Insect X and Insect Y last.



Based on the graph above, at which stage will Insect X and Insect Y be on the 17th day after the eggs are laid?

	Insect X	Insect Y
1)	Larva	Pupa
2)	Larva	Larva
3)	Pupa	Pupa
4)	Pupa	Larva

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20. The diagram below shows a complete flower.

Flowers W, X and Y are from the same plant. However, some of their parts have been removed before pollination could occur as shown below.

Which flowers are able to develop into fruits?

(1)

1) W and X only
2) X and Y only
3) W and Y only
4) W, X and Y

21. The diagram below shows a rice cooker that Mrs Bani used to cook rice. When she opened it after the rice was cooked, she saw white mist coming out of the rice cooker.

Which of the following about white mist is correct?

	White mist is	There is white mist because
1)	steam	water evaporated from the cooked rice and escaped from the rice cooker.
2)	water vapour	water evaporated from the cooked rice and escaped from the rice cooker.
3)	water droplets	water vapour from the cooked rice condensed in the air outside the rice cooker.
4)	water droplets	water vapour from the cooked rice condensed in the air inside the rice cooker.

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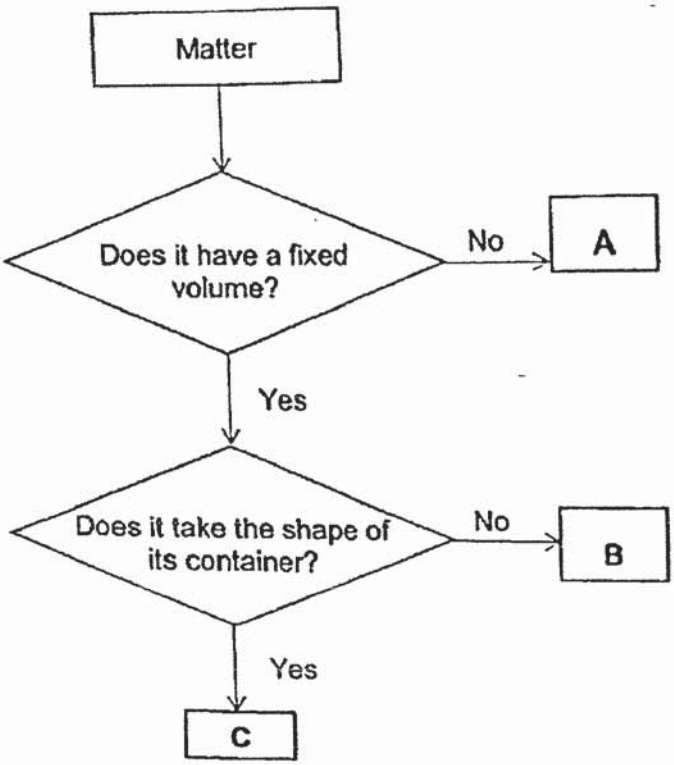
22. Study the flow chart below.



Which one of the following items in the box below best represents A, B and C?

	A	B	C
1)	Oxygen	Rock	Sunblock lotion
2)	Oxygen	Sunblock lotion	Rock
3)	Rock	Sunblock lotion	Oxygen
4)	Sunblock lotion	Rock	Oxygen

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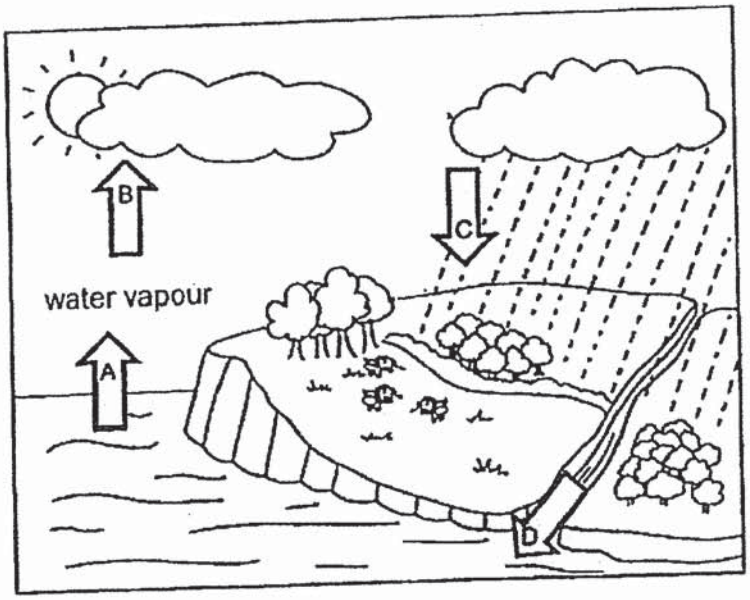
23. Gina conducted an experiment and recorded the results as shown in the table below.

Container	Exposed surface area of water (cm^2)	Fan speed	Temperature of water (°C)	Time taken for water to evaporate completely (minutes)
A	70	2	45	72
B	70	2	69	53
C	70	2	92	27

The aim of her experiment is to find out if the _____.

1) presence of wind affects rate of evaporation
2) temperature of water affects the rate of evaporation
3) time taken for evaporation affects temperature of water
4) amount of exposed surface area affects the rate of evaporation

24. The water cycle is shown below.



Which arrows represent processes when there is a change in the states of matter?

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

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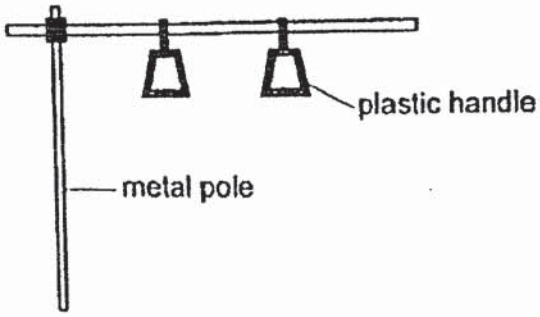
25. The diagram below shows part of a metal pole and plastic handles inside a public bus.



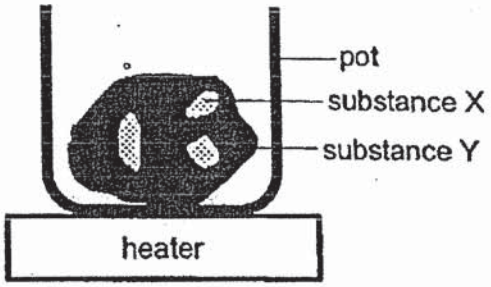
Aini was standing inside an air-conditioned bus. She held onto the plastic handle with one hand while holding on to the metal pole with her other hand.

Her hands felt that the metal pole was colder than the plastic handle.

Which of the following explains why her hands felt that the metal pole was colder than the plastic handle?

1) The metal pole had a lower temperature than the plastic handle.
2) The metal pole had a greater surface area than the plastic handle.
3) The plastic handle gained heat from the air faster than the metal pole.
4) The metal pole gained heat from her hand faster than the plastic handle.

26. Raju placed a solid made of two substances, X and Y in a pot as shown below.



The melting points of substances X and Y are as follows.

Substance	X	Y
Melting point (°C)	490	330

He wants to collect the solids of substance X only.

At what temperature should he set the heater such that he can obtain the solids of substance X?

1) 310 °C
2) 340 °C
3) 490 °C
4) 500 °C

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SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2020

SCIENCE

PRIMARY FIVE

NAME: _____ ( ) DATE: 27 October 2020

CLASS: PRIMARY 5 SY / C / G / SE / P

Booklet A		56
Booklet B		44
Total		100

Parent's Signature

_____

BOOKLET B

12 questions

44 marks

Total time for Booklets A & B: 1 h 45 min

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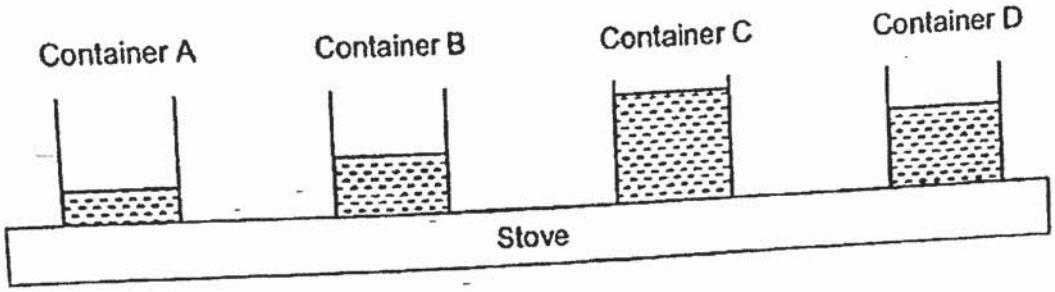
27. Four containers A, B, C and D of the same size and thickness were made of different materials. They were filled with equal amounts of water and were heated for 60 minutes.

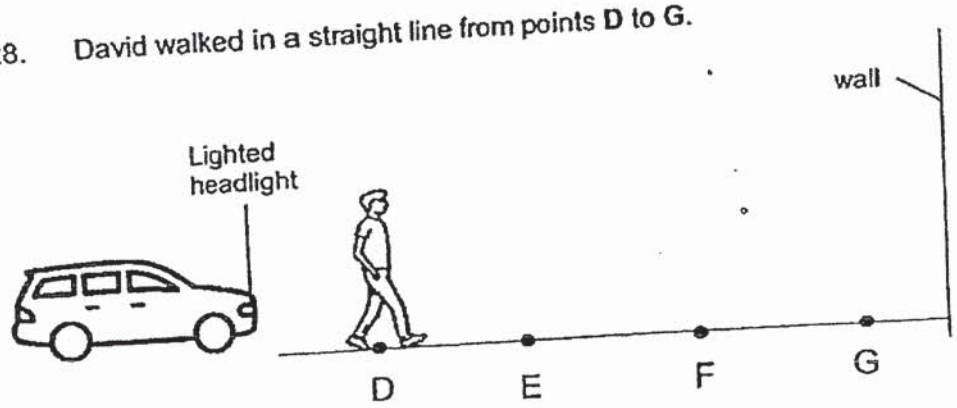
The diagram below shows the amount of water left in each container at the end of 60 minutes.



Arrange the Containers, A, B, C and D, starting from the poorest conductor of heat to the best conductor of heat.

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

28. David walked in a straight line from points D to G.



Based on the diagram above, which point would David have the largest shadow on the wall?

1) D
2) E
3) F
4) G

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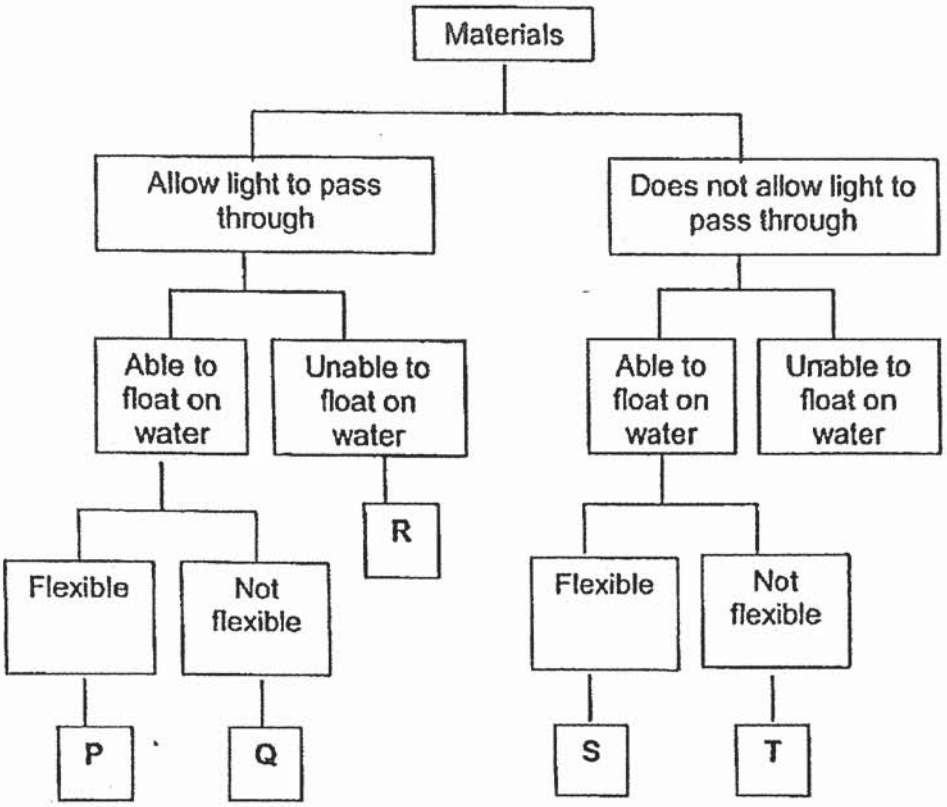
Booklet B (44 marks)

Answer all the following questions.

29. Study the classification diagram below.



a) What is the similarity between Material **P** and Material **T**? [1m]

_____

b) State two differences between Material **Q** and Material **S**. [2m]

_____

_____

c) Based on the classification diagram, write down the letter (P, Q, R, S, T) for each of the materials given below. [1m]

Material	Represented by letter
Clear Glass	
Wood	

4

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30. The table below provides information about three cells P, Q and R.

A tick (✓) indicates the cell has this cell part.

Parts of a cell	Cell P	Cell Q	Cell R
Cell membrane	✓	✓	✓
Cell wall	✓	✓	
Chloroplast		✓	
Nucleus	✓	✓	✓

a) Based the table, which cell parts are found in all three cells? [1m]

b) Complete the table by identifying where cells P, Q and R are taken from. [2m]

	Cell taken from:	Cell
i)	seed	
ii)	flower	
iii)	leaf	
iv)	human skin	

3

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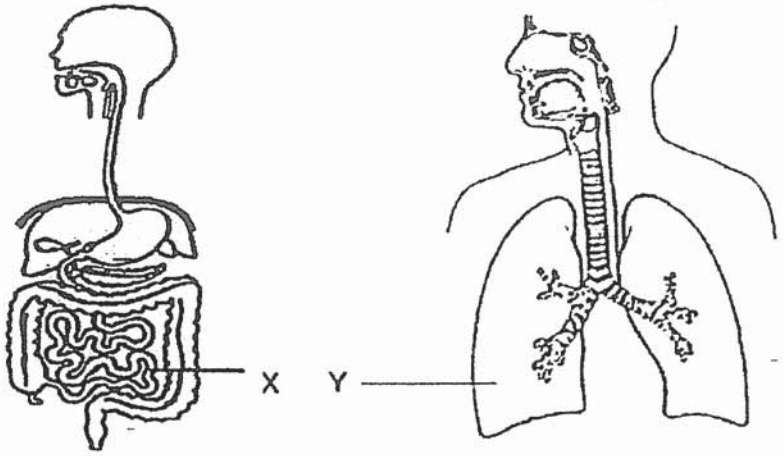
31. The diagrams below shows the parts of 2 systems in the human body.



System 1 System 2

a) Identify the systems. [2m]

System 1: _____

System 2: _____

b) How do the substances in the blood differ in X and Y? [1m]

(i) Blood leaving X carries _____ (more / less) digested food than the blood entering it.

(ii) Blood leaving Y carries _____ (more / less) carbon dioxide than the blood entering it.

c) Name the system that transports the substances named in (b) to all parts of the body. [1m]

_____

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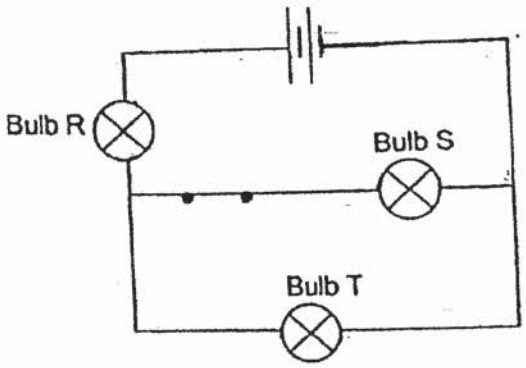
32. Shaun set up an electric circuit, with bulbs R, S and T as shown in the circuit diagram below. He then closes the switch.



a) What will happen to Bulb R if Bulb S is fused? [1m]

_____

b) One of the bulbs was fused and the remaining bulbs did not light up when the switch is closed. Which bulb was fused? [1m]

_____

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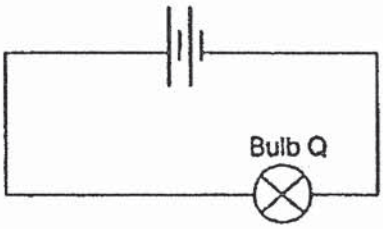
c) Shaun was given the following circuit.



In the box provided below, draw a circuit diagram to show how Shaun can connect 2 batteries, 3 bulbs, and some wires such that all the bulbs will shine with the same brightness as bulb Q. [2m]

4

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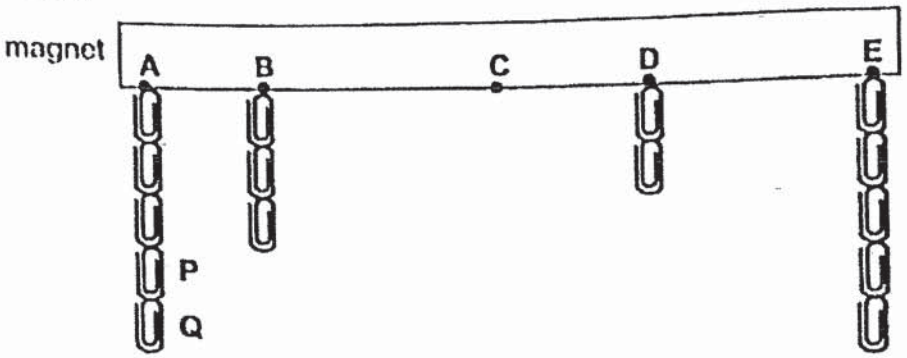
33. Jasper wanted to find out the magnetic strength of a magnet at parts **A, B, C, D** and **E**. He observed the number of paper clips attracted at each part as shown below.



a) Based on Jasper's observation, what could he conclude about the magnetic strength of the poles of the magnet, **A** and **E**, and the centre, **C**? [1m]

_____

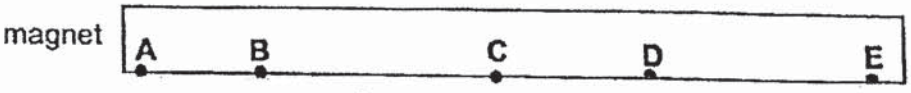
_____

b) After Jasper removed Paper clips **P** and **Q** from the magnet, he observed that Paper clip **Q** was attracted to Paper Clip **P** as shown below. Explain why this happened. [1m]

_____

_____

c) Jasper dropped the magnet accidentally down a long flight of stairs. When he used the magnet to attract the paper clips again, he noticed a different number of paper clips attracted to the magnet. Draw the new number of paper clips for **A, B, C, D** and **E** in the diagram below. [2m]



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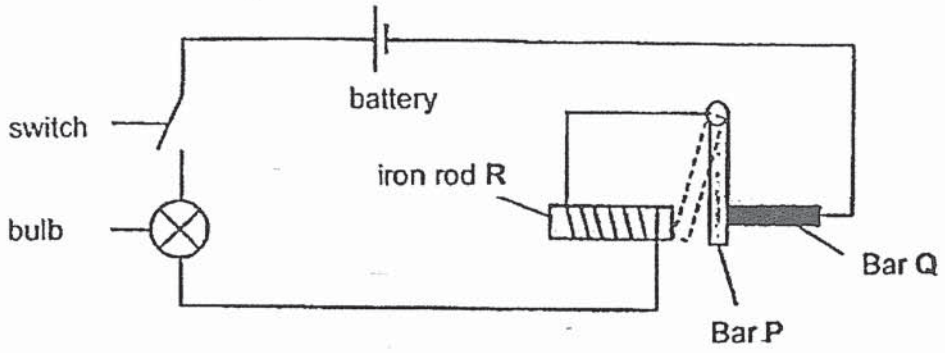
34. Chloe set up the circuit shown below with steel bars P and Q. When she closed the switch, the bulb lit up and Bar P moved away from Bar Q and touched the iron rod R.



a) Give a reason why iron is suitable for making the rod R. [1m]

_____

b) Explain why Bar P touched the iron rod after Chloe closed the switch. [2m]

_____

_____

c) When Bar P touched the iron rod, the bulb turned off. Explain why. [1m]

_____

_____

d) Can Bar Q be made of wood? Explain your answer. [1m]

_____

_____

5

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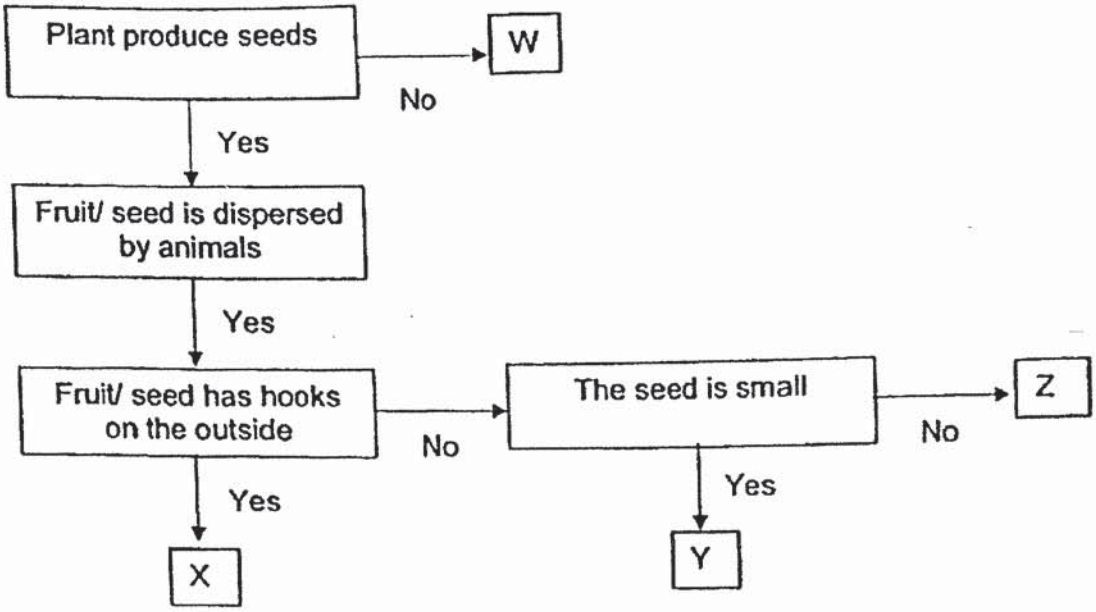
35. Study the flowchart shown below.



a) Based on the chart above and the diagram of the plants below, write the letters 'W, X, Y or Z' in the boxes below. [2m]

African lovegrass

Bird's nest fern

Grape vine

	Plants
African lovegrass	(X)
Bird's nest fern	
Grape vine	(Y)

b) State one other characteristic of Y that enables it to be dispersed by animals.. [1m]

_____

c) Describe how fruit/seed Z is dispersed by animals.

_____

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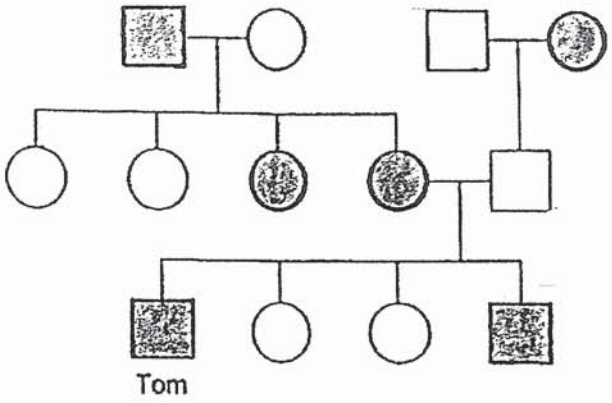
36. Study the family tree of Tom's family members.



Key:

- Male with brown hair
- Male with red hair
- Female with brown hair
- Female with red hair

a) How many siblings does Tom's mother have? [1m]

_____

b) Based on the diagram above, explain why Tom has brown hair. [1m]

_____

_____

c) On the family tree above, put an 'X' inside the symbol that represents Tom's father. [1m]

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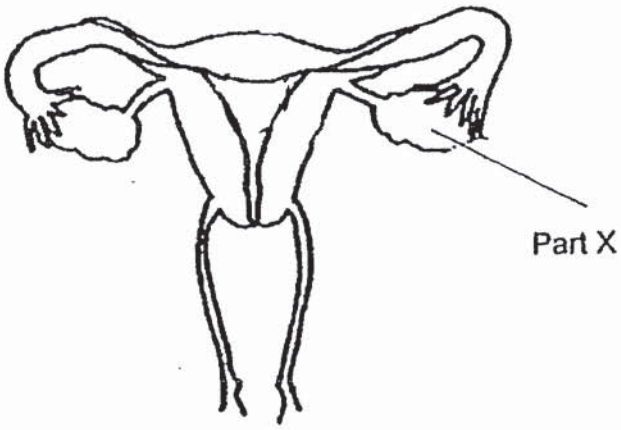
37. The diagram below shows the cross section of a human female reproductive system.



a) On the diagram above, **circle** and **name** the part where the fertilized egg develops into an unborn baby. [1m]

b) (i) Name Part X. [1m]

_____

(i) If a woman is born without any Part X, is she able to reproduce naturally? Explain your answer. [1m]

_____

_____

3

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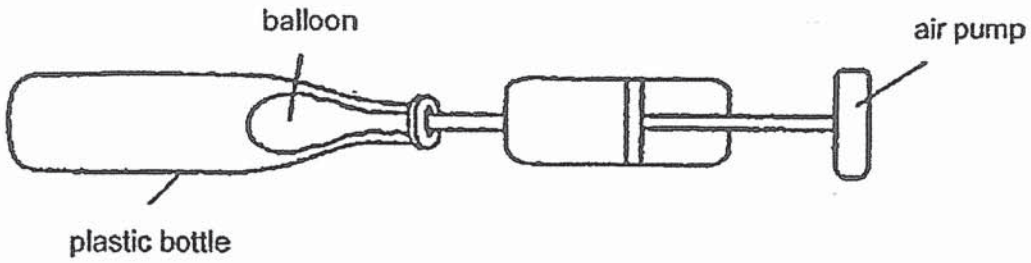
38. Alex placed a balloon into a plastic bottle as shown below.



a) Alex tried inflating the balloon using the air pump but found it difficult to do so. Why is this so? [1m]

_____

_____

b) Alex's friend suggested poking a hole in the plastic bottle so that the balloon can be inflated more easily. Explain why the balloon can be inflated more easily after a hole is made in the bottle. [2m]

_____

_____

3

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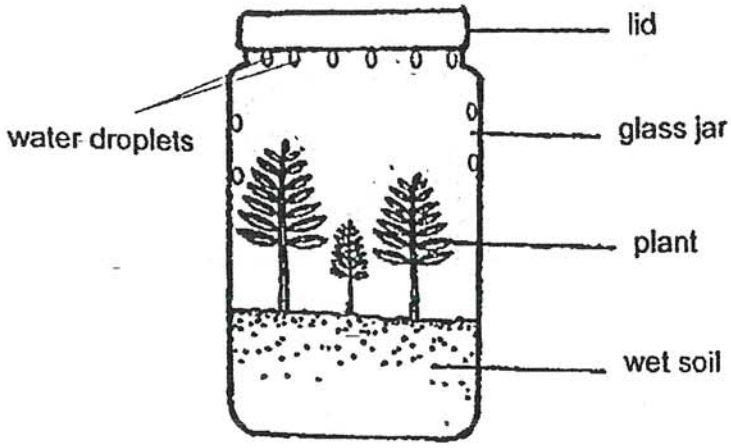
39. The diagram below shows a terrarium where a few plants were enclosed in a container made of clear glass. It was sealed with a glass lid. After some time, some water droplets were observed on the inner sides of the container.



a) Explain how the water droplets were formed. [2m]

b) How does the glass lid help the terrarium to maintain a constant supply of water over the next few weeks? [1m]

3

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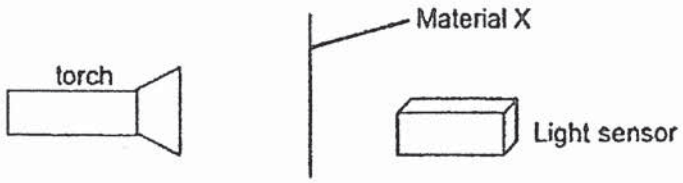
40. John conducted an experiment in an enclosed dark room. He placed a sheet of Material X between the lighted torch and a light sensor. He measured the amount of light that passed through Material X and recorded the results in the table below.



John repeated the experiment by increasing the number of sheets of Material X used. The table below shows the results after the experiment.

Number of sheets of Material X used	0	1	2	3	4	5
Amount of light (units)	135	100	80	Z	40	20

a) Complete the table above by giving a suitable value for Z. [1m]

Z : _____ units

b) What is the relationship between the number of sheets of Material X used and the amount of light passing through? [1m]

_____

_____

c) State two variables that must be kept constant in order to conduct a fair test. [1m]

(i) _____

(ii) _____

d) Based on John's experiment, state a property of Material X. [1m]

_____

END OF PAPER

4

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ANSWER KEY

YEAR : 2020
LEVEL : PRIMARY 5
SCHOOL : SINGAPORE CHINESE GIRLS'
SUBJECT : SCIENCE
TERM : SA2

BOOKLET A

Q1	4	Q2	3	Q3	3	Q4	2
Q5	2	Q6	3	Q7	4	Q8	3
Q9	3	Q10	2	Q11	3	Q12	2
Q13	3	Q14	4	Q15	1	Q16	1
Q17	4	Q18	4	Q19	4	Q20	1
Q21	3	Q22	1	Q23	2	Q24	1
Q25	4	Q26	2	Q27	2	Q28	1

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2020 P5 SA2 Science

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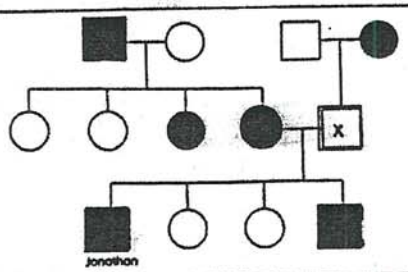
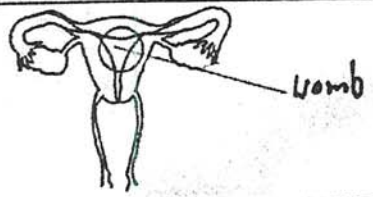
Qn	Suggested Answers
29a	Both P and T are able to float on water.
29b	Q allows light to pass through but S does not. S is flexible but Q is not.
29c	Material: Clear Glass — Represented by letter: R Material: Wood — Represented by letter: T
30a	Nucleus and cell membrane
30b	i) seed — P ii) flower — P iii) leaf — Q iv) human skin — R (Cell taken from: / Cell)
31a	System 1:digestive system System 2: respiratory system
31b	i) more ii) less
31c	The circulatory system
32	a) Bulb R remains lit/ can still light up. b) Bulb R c) 3 bulbs and battery in parallel with no gaps.
33a	The magnetic strength at poles/ A and E are the **strongest**, while that at C/ cente is the **weakest** . OR The poles of a magnet are stronger (in magnetic strength) than the center/middle.
33b	P has become a magnet (via induction)/ P is magnetized.
33c	Parts/ Poles A and E should have the most but fewer than before dropping down the stairs AND C should have none.
34a	Iron is a magnetic material.
34b	When the switch is closed, there will be a closed circuit and iron rod will become an electromagnet which will then attract Bar P .
34c	There is an open circuit / incomplete circuit circuit.
34d	No, wood is a **non-conductor of electricity**, so it will not form a closed circuit. OR No. Q has to be an electrical conductor to close the circuit.
35a	African lovegrass — X Bird nest fern — W Grape vine — Y
35bi	The fruit is sweet /juicy/ fleshy/ edible.
35bii	The animals eat the flesh of the fruit and spit out/ throw away the seed / leave the seed.
36a	3 / Three
36b	His mother/paternal grandmother/maternal grandfather passed down the characteristic of brown hair to him.
36c	
37a	B, A, D, C
37b	
37bi	Ovary/ovaries
37bii	She cannot produce eggs for reproduction.
38a	Air in the bottle **occupies space** (and is unable to escape), thus it is difficult to inflate the balloon.
38b	To allow the air in the bottle to escape, enabling the air in the balloon to take up the space previously taken up by theh air in the bottle.
39a	The water in the wet soil evaporated into water vapour /Plant released water vapour through the leaves. The warmer water vapour then came into contact with the cooler surface of the glass jar/ lid, loses heat and condenses into water droplets.
39b	It prevents the water vapour from escaping, which condenses into water droplets and falls back into the soil (for the plants to absorb).
40a	Range from 41 to 79.
40b	The more/higher the number of sheets of Material X used, the less/smaller (BOD) amount of light can be passed through it. OR The fewer the (number of) sheets (of Material X) used, the more amount of light can be passed through it.
40c	Any of the 2: - Same light intensity - Same colour/thickness of Material X - Distance between torch and Material X/Material X and sensor/ torch and sensor.
40d	It is translucent/ allows some light to pass through.

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