

**SINGAPORE CHINESE GIRLS' SCHOOL
SECOND SEMESTRAL ASSESSMENT 2018
PRIMARY 5 SCIENCE**

Name: _____ () Date: 19 October 2018

Class: Primary 5 SY / O / G / SE / P

**SCIENCE
BOOKLET A**

28 questions

56 marks

Total Time For Booklets A & B: 1 h 45 min

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

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. Which of the following are characteristics of birds?

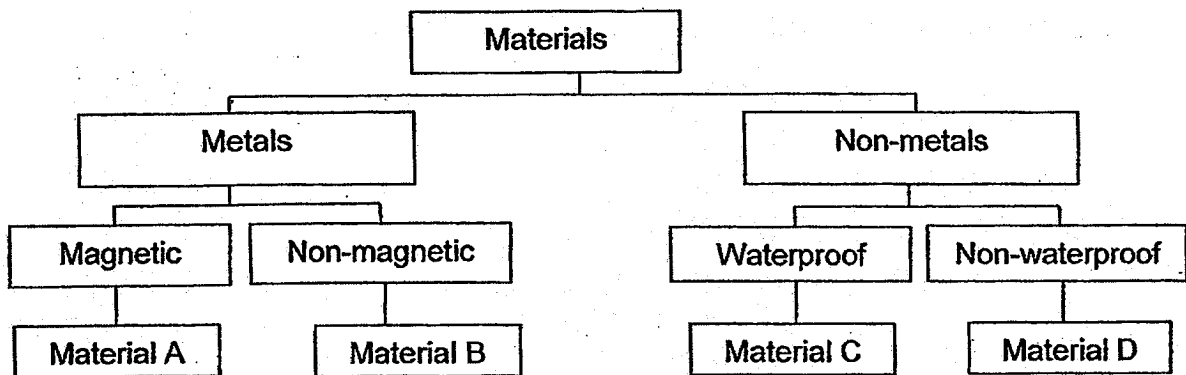
A: Can fly
B: Lay eggs

C: Have gills
D: Have feathers

1) A and D only
2) A and C only

3) B and C only
4) B and D only

2. Study the classification chart below.



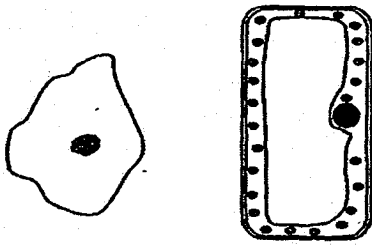
Based on the classification chart above, which one of the following statements is correct?

- 1) Material A can conduct electricity.
- 2) Material B can be made into a magnet.
- 3) Material C can absorb water.
- 4) Material D is a good conductor of heat.

3. Which one of the following cell part is matched correctly to its function?

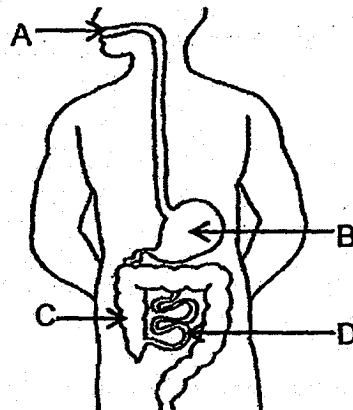
	Cell Part	Function
1)	Cytoplasm	Absorbs light energy
2)	Cell wall	Gives the cell its regular shape
3)	Cell membrane	Controls everything within the cell
4)	Nucleus	Controls substances that enter and exit the cell

4. Observe the 2 cells below.



Which one of the following statements is true about both cells?

- 1) Both are plant cells.
 - 2) Both are animal cells.
 - 3) Both have cell membrane.
 - 4) Both can carry out photosynthesis.
5. The diagram below shows the human digestive system.



Which one of the following correctly shows the functions of A, B, C and D?

	Digest food	Absorbs digested food	Absorbs excess water
1)	B	A and D	C
2)	A	B, C and D	D
3)	C and D	B and C	D
4)	A, B and D	D	C

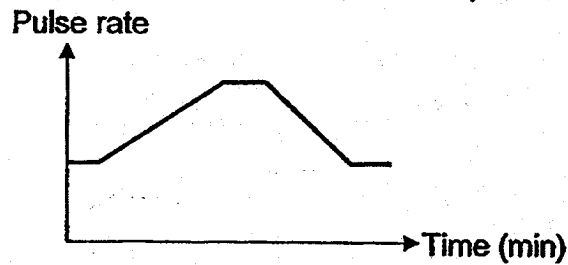
6. Which of the following belong to the human circulatory system?

A: Heart
B: Blood

C: Lungs
D: Blood vessels

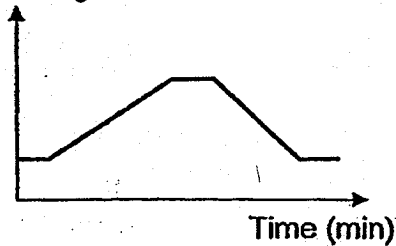
- 1) A and C only
- 2) C and D only
- 3) A, B and D only
- 4) A, B and C only

7. The graph below shows the pulse rate of John over a period of time.

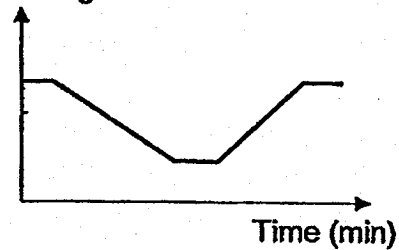


Which one of the following graphs most likely shows John's breathing rate over the same period of time?

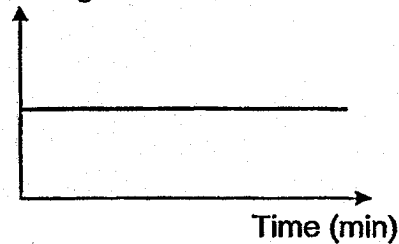
1) Breathing rate



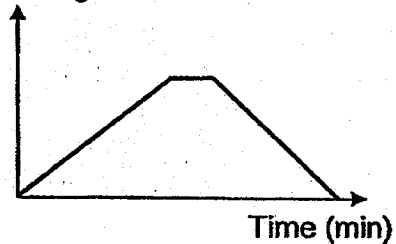
3) Breathing rate



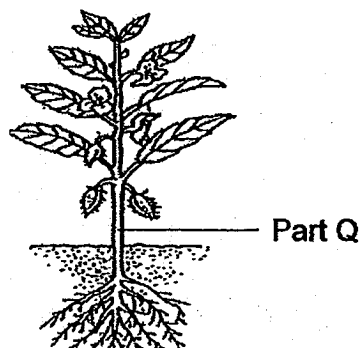
2) Breathing rate



4) Breathing rate



8. Which of the following statement/s about Part Q is correct?



- A: Take in water
- B: Transport food
- C: Holds the plant upright
- D: Anchor the firmly plant to the ground

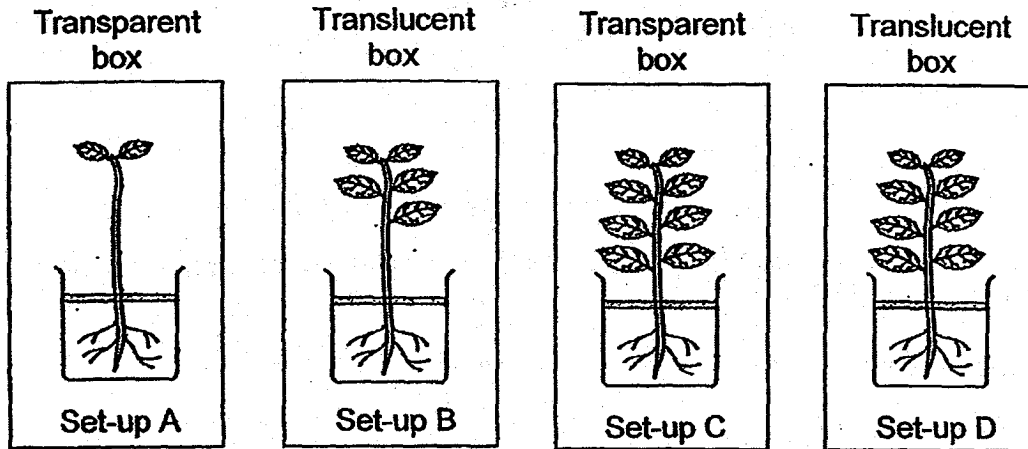
1) C only

2) A and D only

3) B and C only

4) A, C and D only

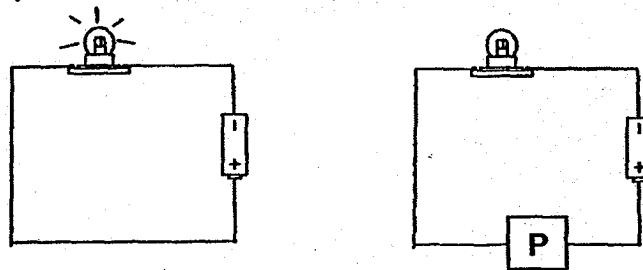
9. Sue Min has 4 set-ups as shown below.



Sue Min wanted to conduct 2 experiments. Which one of the following correctly shows the correct set-ups used for each aim of her experiment?

Aim of experiment	
To find out if the number of leaves affects the amount of water taken in by the plant	To find out if the amount of light affects the amount of water taken in by the plant
1) Set-up A and Set-up B	Set-up B and Set-up C
2) Set-up A and Set-up C	Set-up B and Set-up D
3) Set-up B and Set-up D	Set-up C and Set-up D
4) Set-up B and Set-up C	Set-up A and Set-up B

10. Yanni set up the circuit as shown below.



The bulb lit up at first. However, when P was connected to the circuit, the bulb did not light up. What could P most likely be?

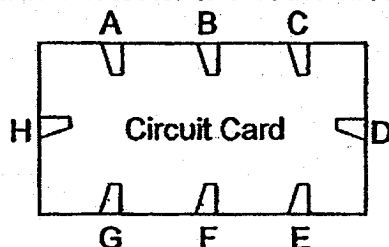
1) $\boxed{-} \boxed{+} \boxed{+} \boxed{-} \boxed{+} \boxed{-}$

3) $\boxed{+} \boxed{-} \boxed{+} \boxed{-} \boxed{-} \boxed{+}$

2) $\boxed{-} \boxed{+} \boxed{-} \boxed{+} \boxed{+} \boxed{-}$

4) $\boxed{-} \boxed{+} \boxed{-} \boxed{+} \boxed{-} \boxed{+}$

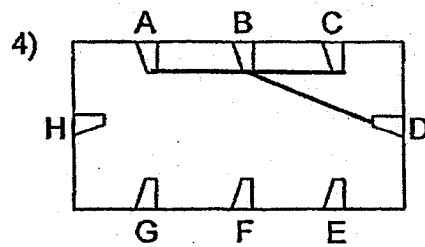
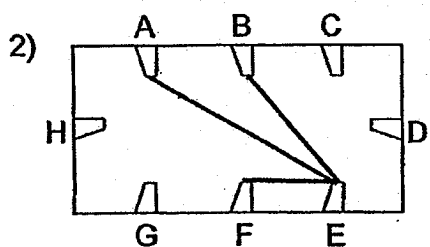
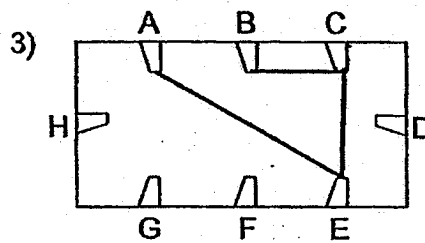
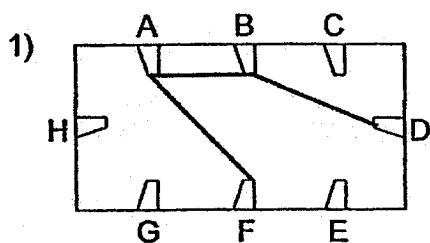
11. Sammy used a circuit tester to test the circuit card below.



The table below shows the results of Sammy's test.

Clips tested	Did the bulb light up?
A and B	Yes
B and E	Yes
C and D	No
D and H	No
E and F	No
G and H	No

Which one of the following correctly shows the connections of the circuit card that Sammy has tested?



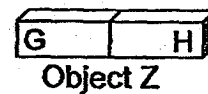
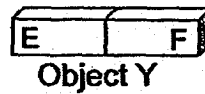
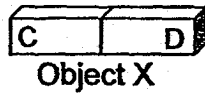
12. The table below shows the states of Substances X and Y at different temperatures.

Substance	40°C	60°C	80°C
X	Solid	Liquid	Liquid
Y	Solid	Liquid	Gas

Which one of the following statements is definitely correct?

- 1) X has a higher boiling point than Y.
- 2) X has a higher melting point than Y.
- 3) X and Y are in the liquid state at 70°C.
- 4) X and Y melt at the same temperature.

13. Minmin placed the ends of Objects W, X, Y and Z together. She recorded her observations as shown in the table below.



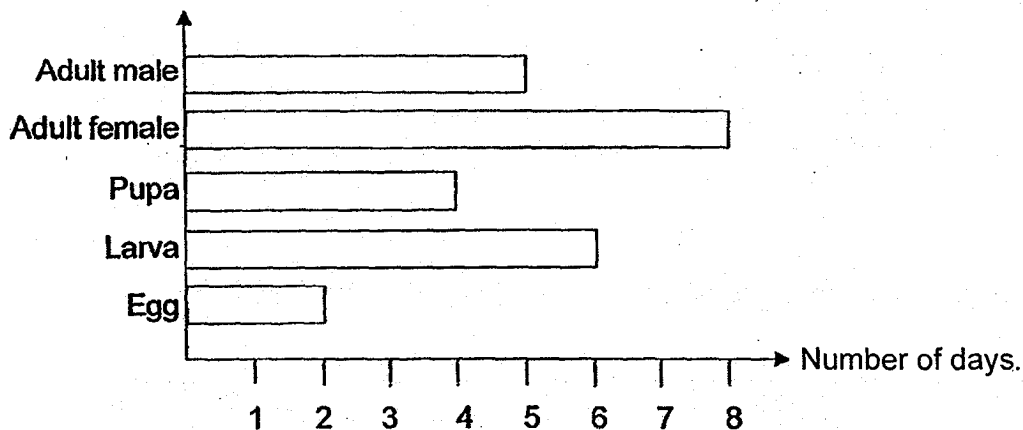
Ends placed together	Observations
B and C	Attracted
D and E	Neither attracted nor repelled
F and G	Attracted
E and G	Attracted
H and A	Attracted
B and H	Repelled

Which of the following can be concluded from Minmin's observations?

- A: Object W and Object Z are magnets.
 B: End A of Object W will repel End G of Object Z.
 C: End A of Object W will attract End E of Object Y.
 D: Object X and Object Y are non-magnetic materials.

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

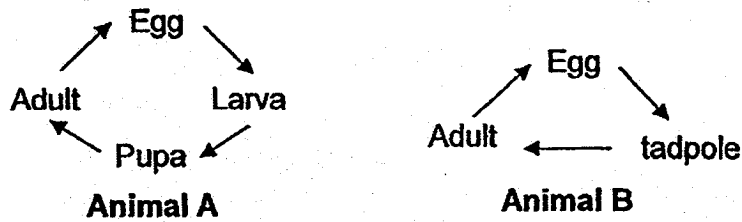
14. The graph below shows the duration of each stage in the life cycle of Insect A.



How many days did Insect A take to become an adult after hatching?

- 1) 6
 2) 10
 3) 12
 4) 17

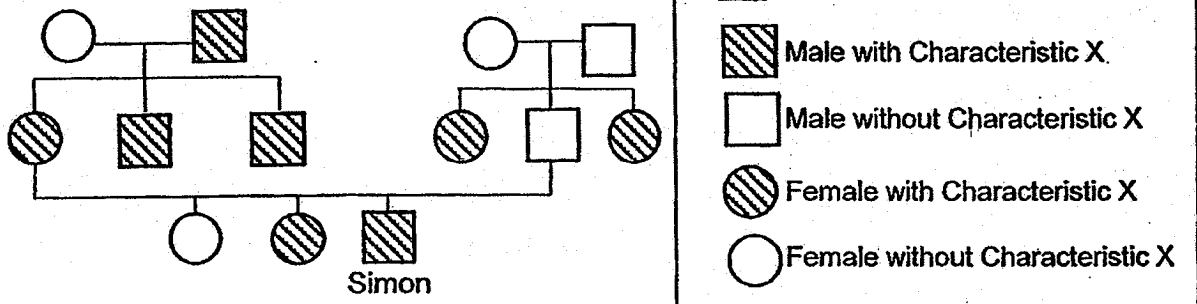
15. The diagrams below show the life cycles of Animal A and Animal B.



Which one of the following statements about Animal A and Animal B is definitely true?

- 1) Both Animal A and Animal B lay eggs in water.
- 2) Animal A has 3 stages in its life cycle while animal B has 4 stages.
- 3) Both the young of Animal A and Animal B do not look like their adults.
- 4) Animal B spends part of its life cycle in water but Animal A does not.

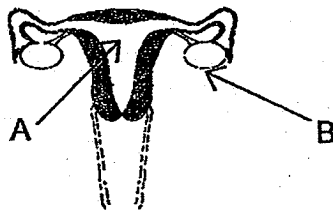
16. Study the family tree below.



Which one of the following statements about the family tree is correct?

- 1) Simon has a brother with Characteristic X.
- 2) Simon's parents both have Characteristic X.
- 3) Simon's uncles do not have Characteristic X.
- 4) Simon's grandmothers do not have Characteristic X.

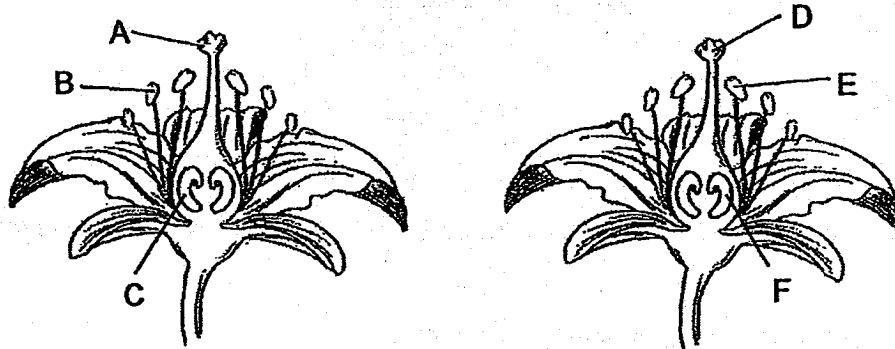
17. The diagram below shows the human reproductive system.



Which of the following correctly indicates parts A and B respectively?

	A	B
1)	Womb	Ovary
2)	Vagina	Ovary
3)	Ovary	Vagina
4)	Vagina	Womb

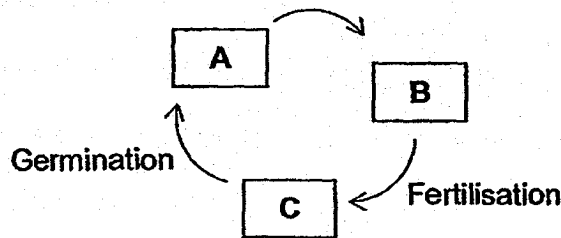
18. Study the diagram below.



Pollination occurs when pollen grains are transferred from _____.

- 1) A to E
- 2) B to D
- 3) C to F
- 4) B to F

19. The diagram below shows the life cycle of a plant.



Which one of the following correctly represents A, B and C?

	A	B	C
1)	Seed	Adult plant	Young plant
2)	Seed	Young plant	Adult plant
3)	Adult plant	Seed	Young plant
4)	Young plant	Adult plant	Seed

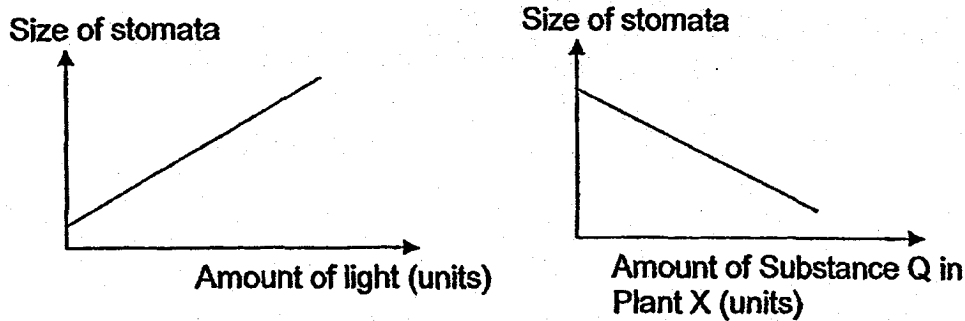
20. A melting block of ice was placed on a table in the kitchen.



Which one of the following statements is correct?

- 1) The ice will increase in temperature.
- 2) The ice will decrease in temperature.
- 3) The ice will gain heat from the water around it.
- 4) The water around the ice will gain heat from the ice.

21. The graphs below show the relationship between the amount of Substance Q in the plant and the amount of light and the size of stomata of Plant X.



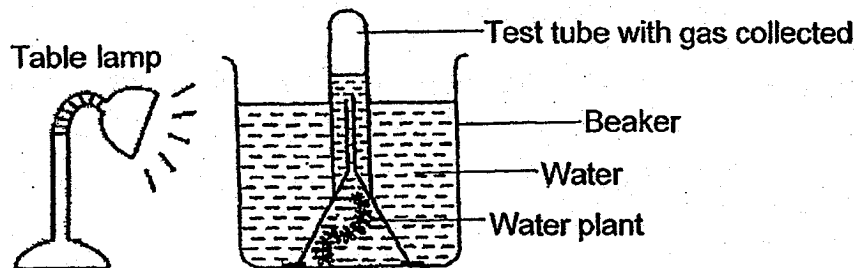
The table below show Plant X in different set-ups.

Set-ups	Amount of light (units)	Amount of Substance Q in Plant X (units)
A	Low	High
B	High	High
C	High	Low
D	Low	Low

In which set-up will Plant X have the largest stomata?

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

22. Mr Tan set up an experiment in a dark room as shown below.

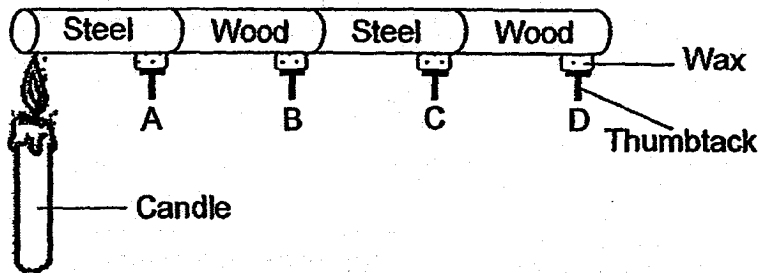


He placed a table lamp at a distance of 40 cm from the beaker with water plant. After 30 minutes, he observed that the test tube had collected 8 cm³ of gas. He repeated the experiment by placing the lamp at different distances from the beaker.

Which one of the following shows the most likely result of this experiment?

	Distance between the lamp and beaker (cm)	Volume of gas collected (cm ³)
1)	15	8 cm ³
2)	15	3 cm ³
3)	65	8 cm ³
4)	65	3 cm ³

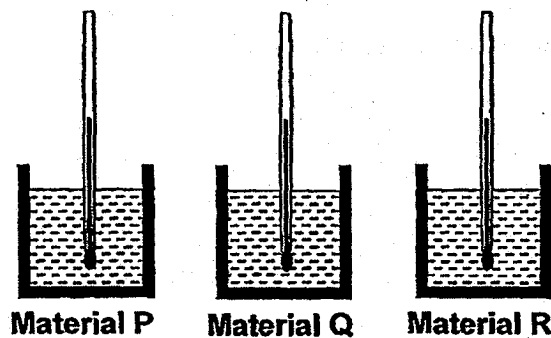
23. Sam had a rod with 4 segments as shown in the diagram below. Each segment had a piece of wax and a thumbtack.



Which one of the following correctly shows the sequence in which the thumbtacks will drop?

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

24. Sarah conducted an experiment as shown below.



She recorded the time taken for the water to boil for each set-up in the table below.

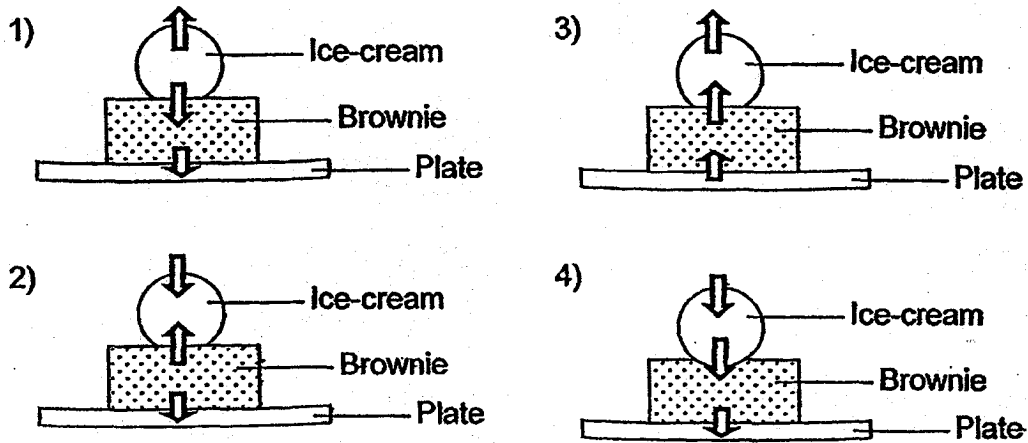
Materials	Time (minutes)
P	25
Q	12
R	38

Which one of the following correctly shows how well the materials conduct heat?

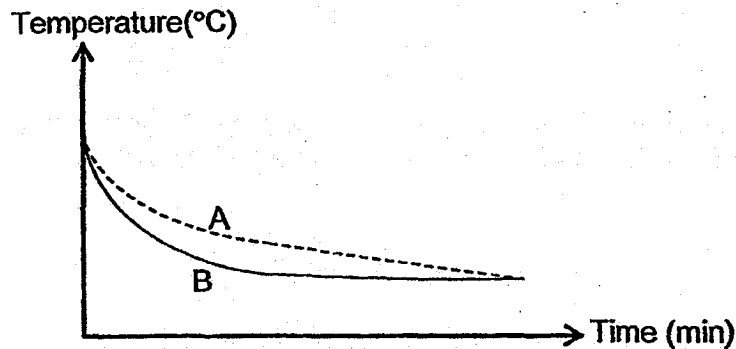
	Material P	Material Q	Material R
1)	Good	Poor	Very good
2)	Poor	Good	Very good
3)	Very good	Poor	Good
4)	Good	Very good	Poor

25. Mei Ling took out a piece of warm brownie from the oven and placed it on a plate. She then placed a scoop of ice-cream onto the brownie.

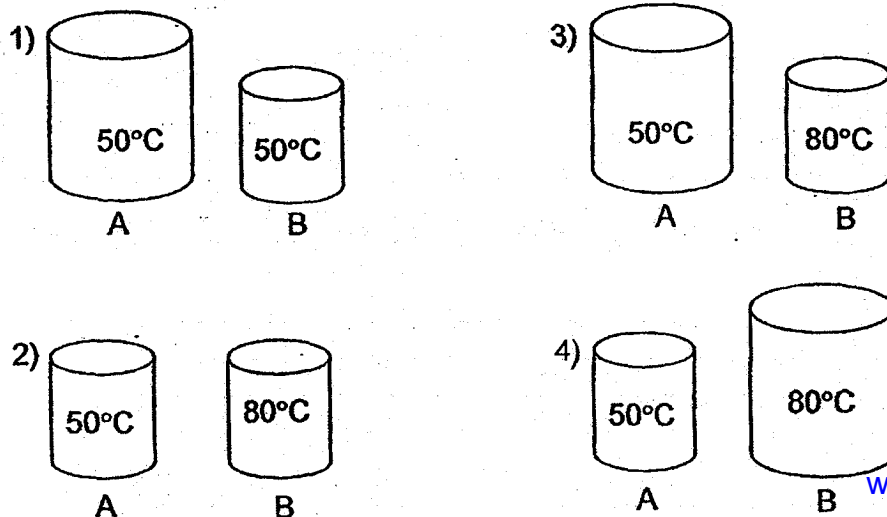
The arrows show the direction of heat flow. Which one of the following correctly shows how heat travels?



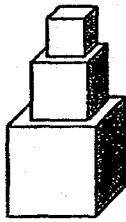
26. Linda conducted an experiment with 2 iron cylinders in the Science room. The graph below shows the rate of cooling of the cylinders.



Which one of the pairs of cylinders correctly shows the ones used in Linda's experiment at the start?



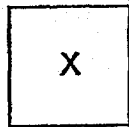
27. Which of the following are possible shadows cast by the wooden cubes below?



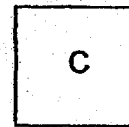
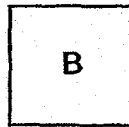
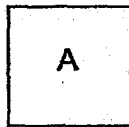
- 1) A and B only
2) A and C only

- 3) B and D only
4) C and D only

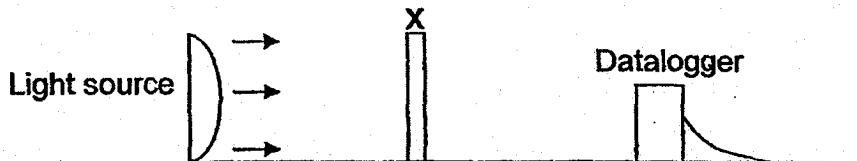
28. Seng Huat has 4 sheets made of different materials as shown below.



Frosted glass



He first placed Sheet X in between a light source and a datalogger and observed that the amount of light detected by the datalogger was 200 units.



He then repeated the experiment by placing different sheets of materials, A, B and C between the light source and datalogger and recorded the results of his experiment as shown below.

	Sheets used		
	A	B	C
Amount of light detected by datalogger (units)	240	0	85

Which one of the following most likely shows the degree of transparency of each material?

	A	B	C
1)	Transparent	Transparent	Opaque
2)	Opaque	Translucent	Transparent
3)	Translucent	Opaque	Opaque
4)	Transparent	Opaque	Translucent

**SINGAPORE CHINESE GIRLS' SCHOOL
SECOND SEMESTRAL ASSESSMENT 2018
PRIMARY 5 SCIENCE**

Name: _____ ()

Date: 19 October 2018

Class: Primary 5 SY/O/G/SE/P

Components	Marks Obtained	Total Marks
Booklet A		56
Booklet B		44
Total		100

Parent's Signature

**SCIENCE
BOOKLET B**

12 questions

44 marks

Total Time For Booklets A & B: 1 h 45 min

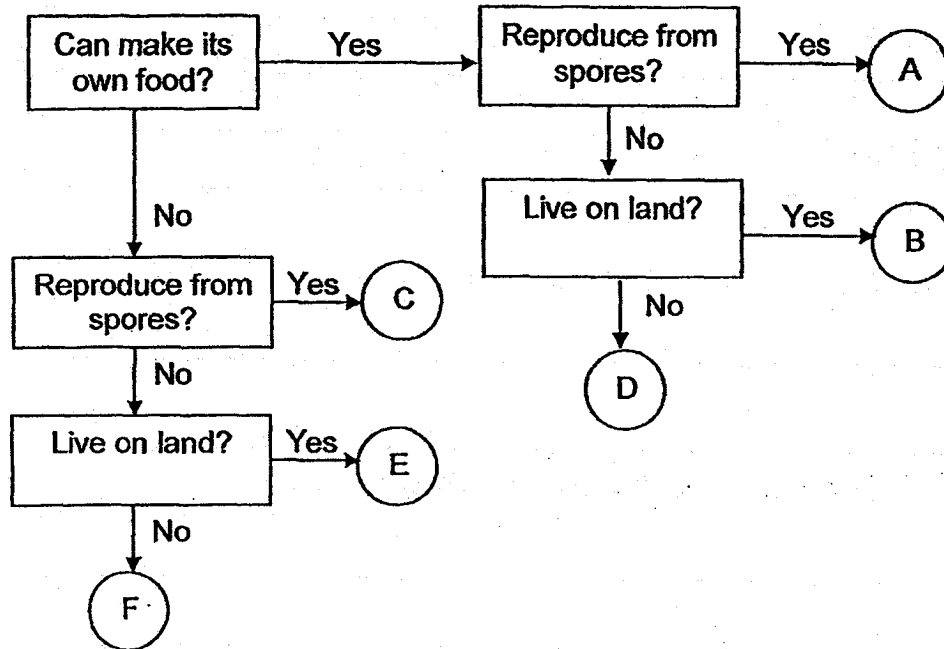
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY

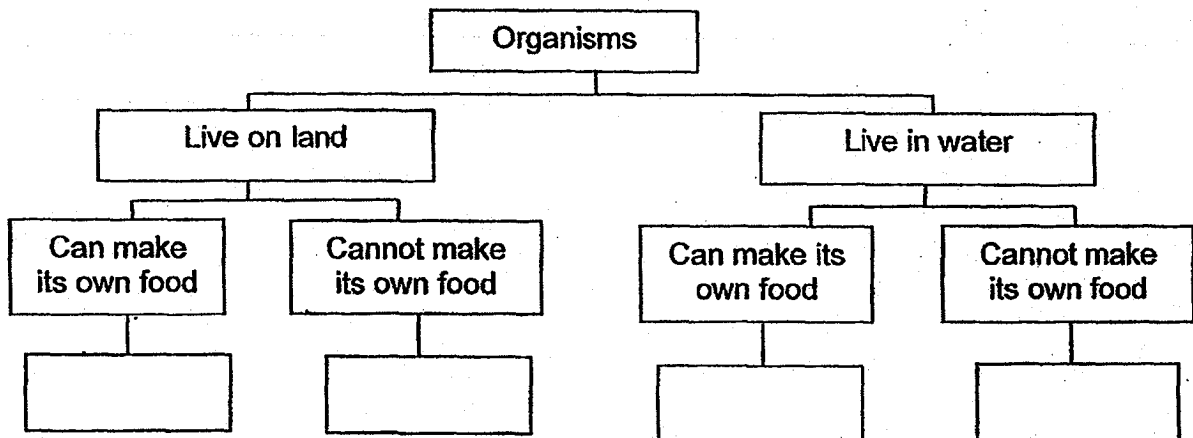
Booklet B (44 marks)

Answer all the following questions.

29. The flowchart below shows 6 organisms, A, B, C, D, E and F.



a) Classify Organisms **B**, **D**, **E** and **F** in the chart below. (2m)



b) Explain why Organisms **A** and **C** cannot be classified in the chart above. (1m)

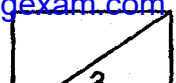
30. The table below shows the parts of Cells W, X, Y and Z.

Cell Parts	W	X	Y	Z
Cell Wall	✓	✓		
Cell Membrane	✓	✓	✓	✓
Cytoplasm	✓	✓	✓	✓
Nucleus	✓	✓	✓	
Chloroplast		✓		

a) Which of the cell/s above is/are plant cell/s? Explain your answer. (1m)

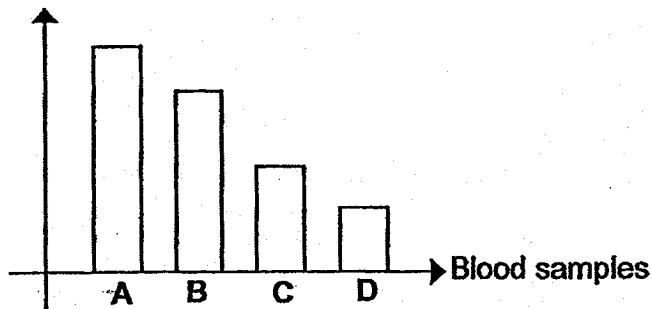
b) State 2 differences between Cell X and Cell Y. (1m)

c) State what Cell Y can do but Cell Z cannot. (1m)

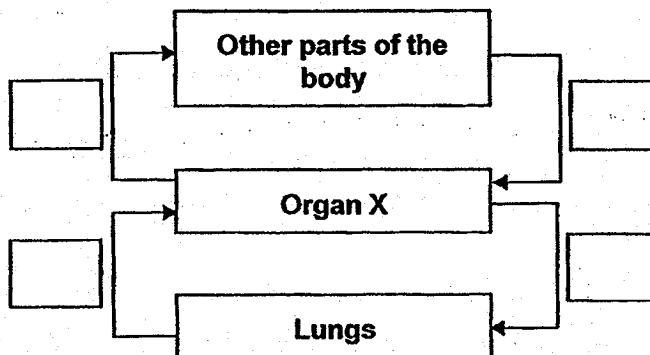


31. The graph below shows the concentration of carbon dioxide in 4 blood samples taken from different blood vessels in the human body.

Amount of carbon dioxide (units)



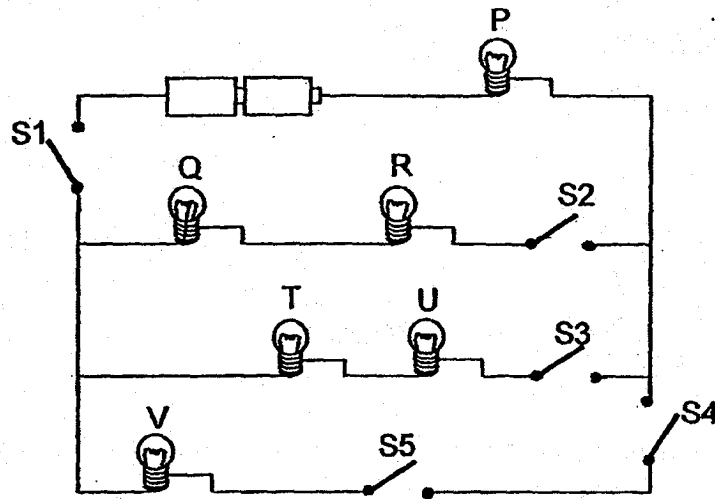
- a) In the 4 boxes below, fill in A, B, C or D to indicate where the blood samples were taken from. (2m)



- b) Name Organ X. (1m)

- c) Explain why the air we breathe out is warmer than the air we breathe in. (1m)

32. Study the circuit below.



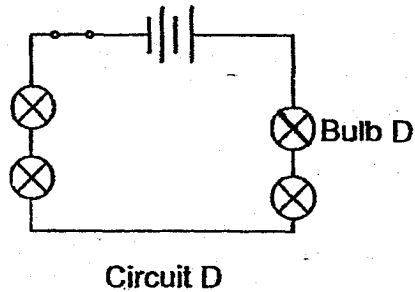
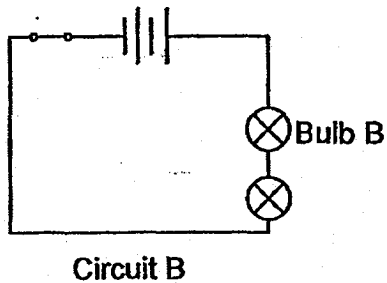
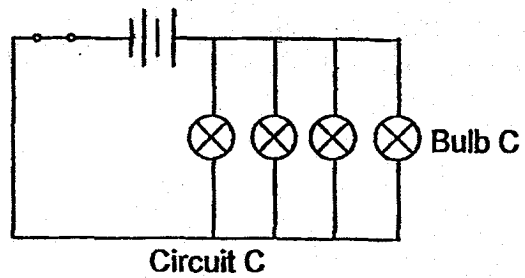
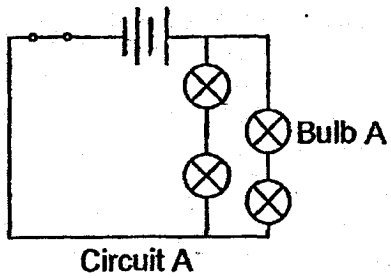
- a) Which bulb/s will light up if only S1, S2 and S5 are closed? (1m)

- b) Which switch/es must be closed for Bulb T and Bulb U to light up? (1m)

- c) If all the switches are closed, which bulb when fused will cause all the other bulbs not to light up? (1m)

- d) Which bulb/s will light up if Bulb R is fused and only S1, S2 and S3 are closed? (1m)

33. Raju formed Circuits A, B, C and D as shown below.



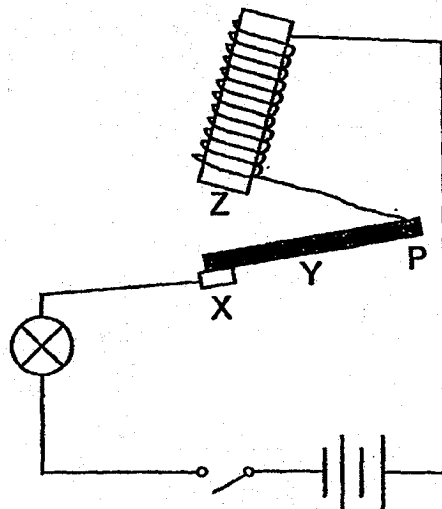
a) Which bulb will have the same brightness as Bulb A? (1m)

b) Which bulb will be dimmer than Bulb A? (1m)

c) Which bulb will be brighter than Bulb A? (1m)

d) If Bulb D is fused, will the remaining bulbs in Circuit D still light up? Explain your answer. (1m)

34. Luke designed a circuit that produces blinking light. X, Y and Z are made of iron. X and Z are fixed. Y can be rotated at Point P. When Luke closed the switch, Y moved up and down between X and Z repeatedly.

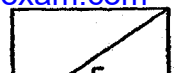


- a) In the diagram, Y was touching X. Explain why the bulb lit up when the switch was closed. (1m)

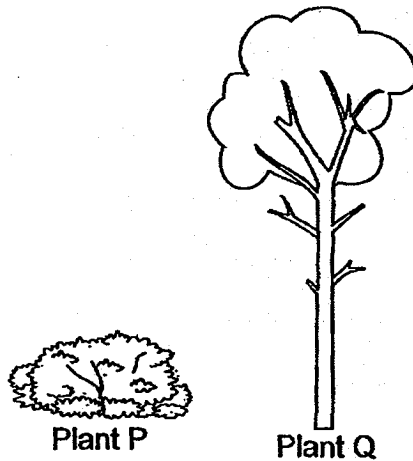
- b) Explain why Y moved and touched Z when the switch was closed. (1m)

- c) Explain what would happen after Y touched Z. (2m)

- d) Will the circuit still produce blinking light if X is changed into aluminium? Explain your answer. (1m)



35. Anna observed Plant P and Plant Q as shown below.



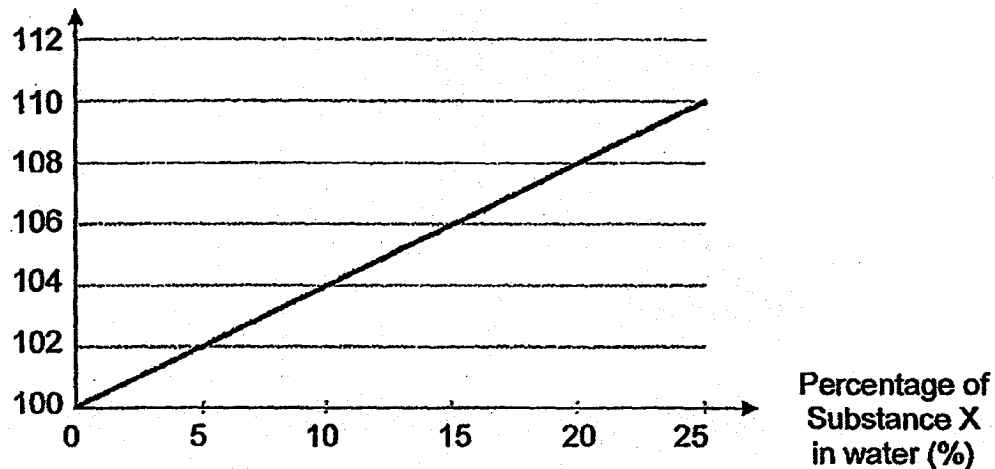
She recorded her observations of Plant P and Plant Q in the table below.

Plant	Characteristics of Plant	Characteristics of Seeds
P	Short	Seeds are light and have hooks
Q	Tall	Seeds have wing-like structures

- a) State the method of seed dispersal for Plant P and Plant Q. (1m)
- i) Plant P: _____
- ii) Plant Q: _____
- b) List one advantage Plant Q has over Plant P if they are grown next to each other. (1m)
- _____
- c) Explain how it is an advantage for the seeds of Plant P to be grown on a short plant. (1m)
- _____
- _____
- _____
- d) Explain how it is an advantage for the seeds of Plant Q to be grown on a tall plant. (1m)
- _____
- _____
- _____

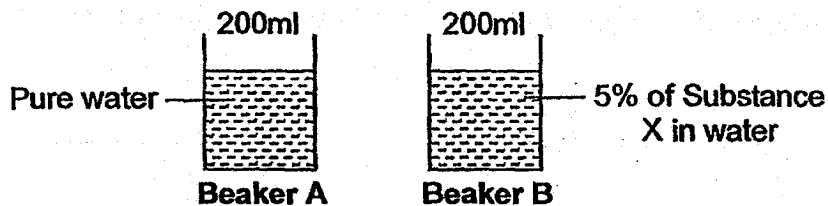
36. The graph below shows how the boiling point of water changes when different amounts of Substance X are added.

Boiling point of water ($^{\circ}\text{C}$)



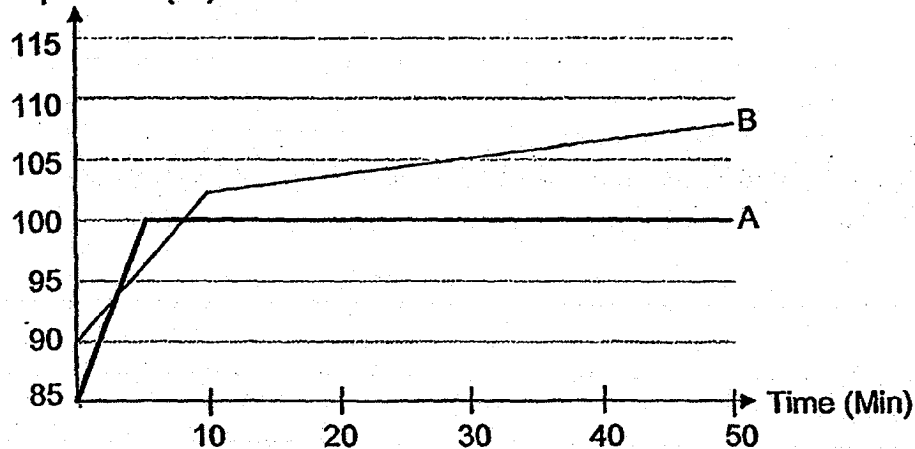
- a) What is the relationship between the percentage of Substance X in water and the boiling point of water? (1m)

- b) The diagram below shows glass beakers A and B.



Amin heated both beakers and recorded the temperature of water over a period of time.

Temperature ($^{\circ}\text{C}$)

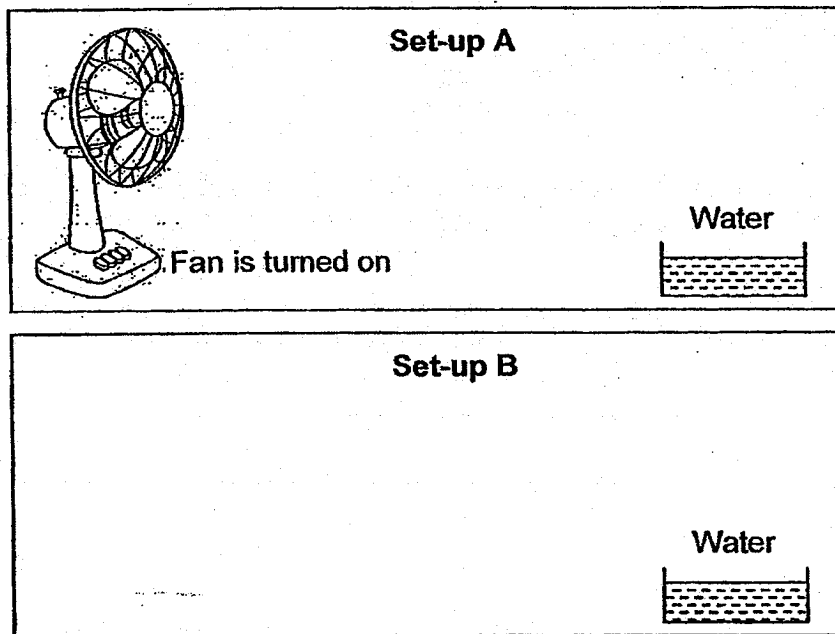


- i) Amin noticed that the volume of water in both beakers was less than 200ml at the end of 50 minutes. Explain what caused this to happen. (1m)

- ii) Explain why the temperature of the water in Beaker A remained the same after the 5th minute. (1m)

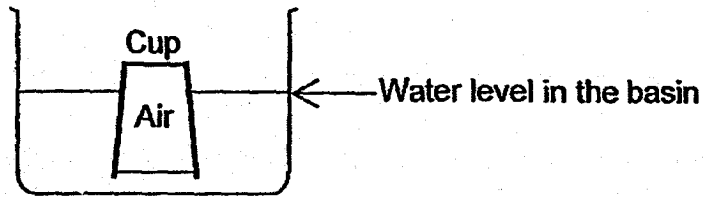
- iii) Based on the 2 graphs, explain why the temperature of water in Beaker B does not stay the same during boiling. (2m)

37. Mohan carried out an experiment as shown below. After 5 hours, he compared the amount of water left in each container.



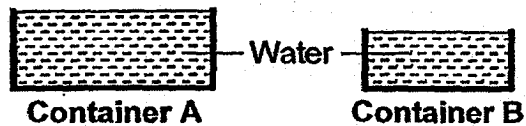
Which set-up would have more water left after 5 hours? Explain your answer. (2m)

38. A cup was inverted into a basin of water as shown below.



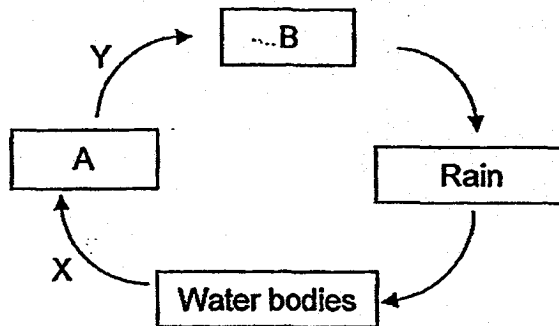
- a) State the property of air which prevented water from entering the cup. (1m)
-
- b) What will happen to the water level in the basin when the cup is removed from the water? (1m)
-

Meihua found that it was easier to wash the food containers if she were to fill them with water half an hour before washing them. The diagram below shows the 2 containers Meihua had.



- c) Meihua's mother told her that she should place Container B into Container A so that she can save water. Do you agree with Meihua's mother? Explain your answer. (2m)
-
-
-

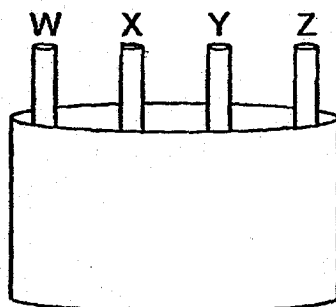
39. The diagram below shows the water cycle.



Based on the diagram above, put a tick (✓) in the appropriate column to indicate if each of the following statement is 'True' or 'False'. (3m)

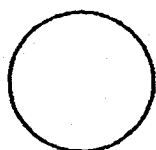
	Statements	True	False
a)	B represents water vapour.		
b)	A represents water droplets.		
c)	Process X represents evaporation.		
d)	Water loses heat during Process X.		
e)	Process Y represents condensation.		
f)	Water gains heat during Process Y.		

40. Deena placed 4 rods of different materials into a container of hot water for 15 minutes. The lengths of the 4 rods were recorded in the table below.

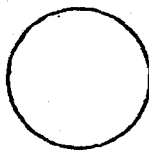


Material	Length of rods at the start of the experiment (cm)	Length of rods after 15 minutes (cm)	Temperature of rods after 15 minutes (°C)
W	20	20.2	90
X	20	20.5	100
Y	20	21.3	80
Z	20	20.8	90

- a) Why did Deena use rods of the same length? (1m)
-
- b) Based on the results of the experiment, Deena concluded that the best conductor of heat will be the longest after 15 minutes. Explain why her conclusion was wrong. (1m)
-
-
- c) Deena had 2 disc made of Material W and Material Z as shown below.

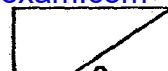


Material W



Material Z

Which disc, W or Z will be a bigger disc when heated? Explain your answer. (1m)



SCHOOL : SCGS PRIMARY SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : 2018 SA2

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	2	3	4	3	1	3	3	2
Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	1	4	2	3	4	1	2	4	3
Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
3	4	1	4	2	1	2	4		

P5 SEMESTRAL ASSESSMENT 2 (SCIENCE) 2018
ANSWER KEY

NAME: _____ CLASS: _____

Qn	Suggested Answers
29a	B, E, D, F
29b	The chart did not provide information on whether Organisms A and C live on land or in water.
30a	W and X. They both have cell walls.
30b	Cell X has cell wall and chloroplast but Cell Y does not.
30c	Cell Y can control all the activities in the cell but Cell Z cannot.
31a	Cell Y can pass on genes/DNA but Z cannot.
	C B D A
31b	Heart
31c	The air that we breathe in gain heat from our body /lungs before we breathe it out.
32a	P, Q and R
32b	S1 and S3
32c	P
32d	P, T and U
33	a) Bulb B b) Bulb D c) Bulb C
33d	No. Bulb D is connected in series, thus when it fused, it will cause an open circuit/ incomplete circuit.
34a	When the switched was closed, there was a closed circuit/ complete circuit so the bulb lit up. 'Electricity can flow through' – no marks if concept of complete circuit is not stated.
34b	When switch is closed, Z becomes an electromagnet which will attract Y.
34c	When Y touched Z, circuit is broken /open, thus the bulb

Qn	Suggested Answers
	cannot light up and Z is no longer an electromagnet. As Z can no longer attract Y, Y will move back to touch X.
34d	Yes. Aluminium is an electrical conductor / can conduct electricity.
35a	i) By man/ animals ii) By wind
35b	Plant: Q will be able to obtain <u>more</u> light/sunlight for photosynthesis/ to make food. <i>Must show comparison.</i>
35c	P is short /low enough for its seeds to hook onto fur of short animals <u>more easily</u> . <i>Must show comparison.</i>
35d	Seeds of Q are high up to stay in the air <u>longer</u> to travel a longer distance before they drop.
36a	The higher the <u>percentage</u> of X in water, the higher the boiling point. OR When the <u>percentage</u> of X in water increases, the boiling point increases. <i>Amount is not the same as percentage.</i>
36bi	Some of the water has turned into steam /boiled off. <i>Answer must show understanding that boiling has occurred and not just evaporation which can happen at any temperature.</i>
36b	ii The water has reached its boiling point / is boiling. <i>Water is changing from liquid to gas – has no marks as it does not specify the process. Evaporation is also changing state.</i>
36b	iii As the water in Beaker B turns into steam, less water remains in the beaker. Thus, the percentage of X in the water increases causing the boiling point of water to Increase.

Qn	Suggested Answers
37	Setup B. Set-up A was exposed to wind but Set-up B was not. Thus the rate of evaporation in Setup B will be slower, leaving more water behind. 'Fan' is not one of the 4 factors affecting rate of evaporation, 'WIND' is one of the 4 factors.
38a	Air in the cup takes up /occupy space.
38b	It will decrease / become lower.
38c	Yes. Container B (and water inside) will occupy space in Container A, thus Container A needs less water to fill up. OR No. Container B occupies space and cause the water to overflow. As the water overflows, there is no saving of water. BOD on 2nd answer which takes place after A is fully filled.
39	a. False b. False c. True d. False e. True f. False
40a	To ensure a fair test.
40b	Material Y expanded the most/ became the longest but it did not it conduct heat the fastest/ best conductor of heat. OR X is the best conductor of heat / conducted heat fastest but it did not become the longest/ expand the most. Must show comparison and infer from table.
40c	Z. Material Z expanded more than W (based on the results/ table) upon heating. Must show comparison.