



RED SWASTIKA SCHOOL

SCIENCE 2019 SEMESTRAL EXAMINATION 2 PRIMARY 5

Name : _____ ()

Class : Primary 5/ _____

Date : 29 October 2019

BOOKLET A

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

Booklet A: 28 questions (56 marks)

Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
 - a. Page 1 to Page 19
 - b. Questions 1 to 28

9

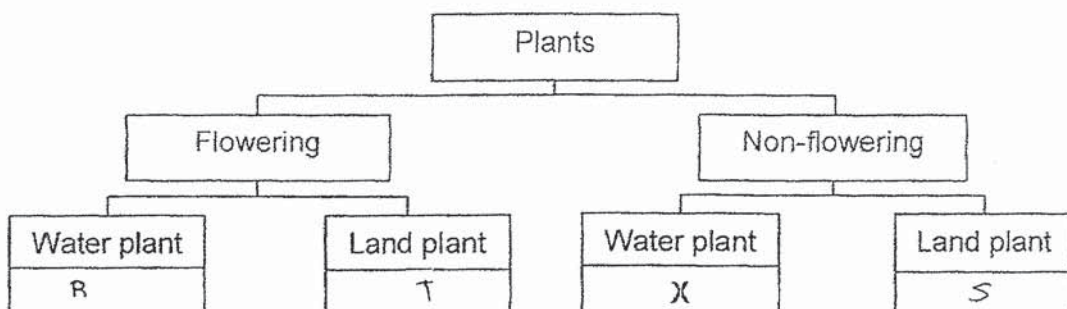
For Questions 1 to 28, choose the most suitable answer and shade its number in the OAS provided.

1. Which of the following can be used to differentiate between birds and insects?
- (1) method of reproduction
 (2) ability to fly
 (3) number of legs
 (4) presence of wings

2. The following table gives information on four plants, R, S, T and U, based on two characteristics.

Characteristics	Plant			
	R	S	T	U
Bears fruit(s)	Yes	No	Yes	No
Grows on land	No	Yes	Yes	No

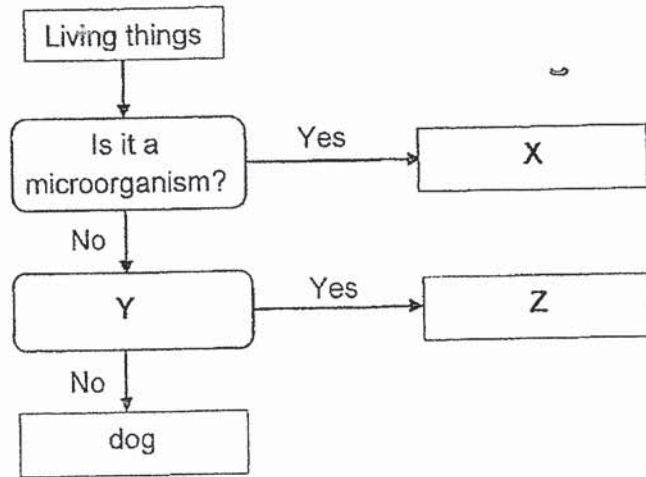
From the information in the table above, the plants are classified as shown below.



Which plant, R, S, T or U, can be classified as X?

- (1) R
 (2) S
 (3) T
 (4) U

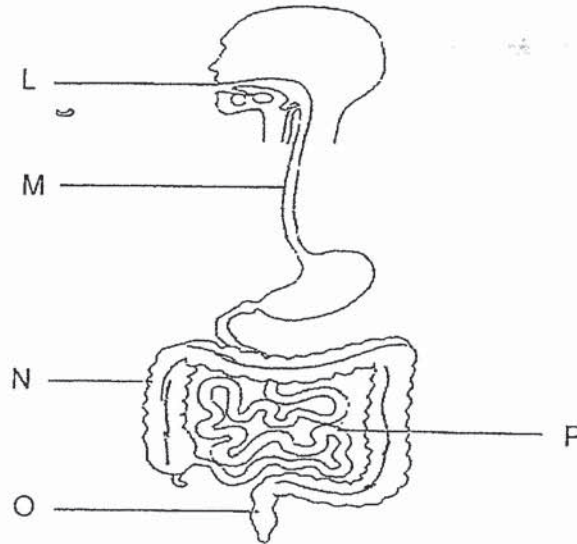
3. The following chart provides some information about living things, X and Z. However, question Y, is missing from the chart.



Which of the following correctly represents X, Y and Z?

	X	Y	Z
(1)	bacteria	Does it give birth?	mosquito
(2)	sunflower	Does it lay eggs?	cat
(3)	lion	Does it give birth?	cat
(4)	bacteria	Does it lay eggs?	mosquito

Study the diagram that shows the human digestive system below and answer questions 4 and 5.



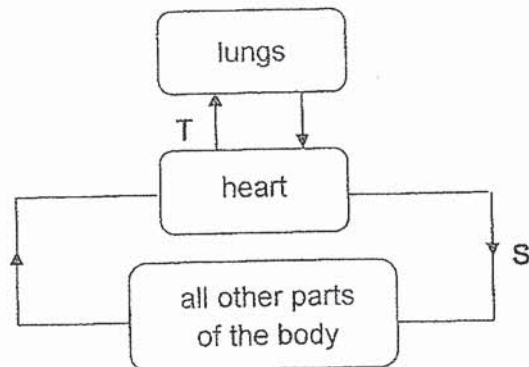
4. Which one of the following is correct?

	Part	Does it release digestive juice?
(1)	L	No
(2)	M	No
(3)	N	Yes
(4)	O	Yes

5. Which of the following correctly identifies the parts of the digestive system?

	M	N	P
(1)	gullet	small intestine	large intestine
(2)	gullet	large intestine	small intestine
(3)	small intestine	large intestine	gullet
(4)	large intestine	small intestine	gullet

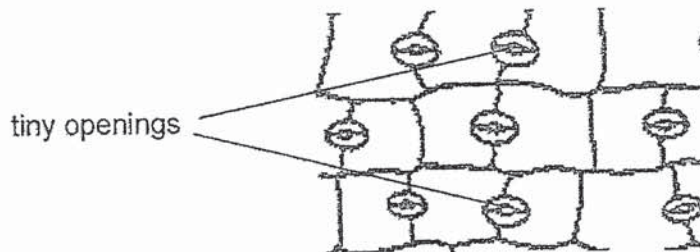
6. The diagram below shows the movement of blood in certain parts of a human body.



Which of the following is correct?

	Blood in T	Blood in S
(1)	low in carbon dioxide	high in oxygen
(2)	high in carbon dioxide	low in oxygen
(3)	low in oxygen	low in carbon dioxide
(4)	low in oxygen	high in carbon dioxide

7. The diagram below shows part of a leaf from a land plant when viewed under a microscope.



Which of the statements about the tiny openings are correct?

- A: They release carbon dioxide only.
- B: They are found mostly on the underside of the leaf.
- C: They absorb sunlight for the leaf to make food.
- D: They allow gaseous exchange to take place.

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

8. Diagram 1 shows a container of liquid that contains substances A and B. The diagrams below are not drawn to scale.

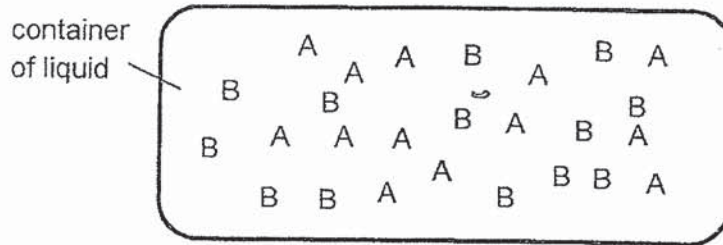


Diagram 1

A plant cell was placed in the container as shown in diagram 2.

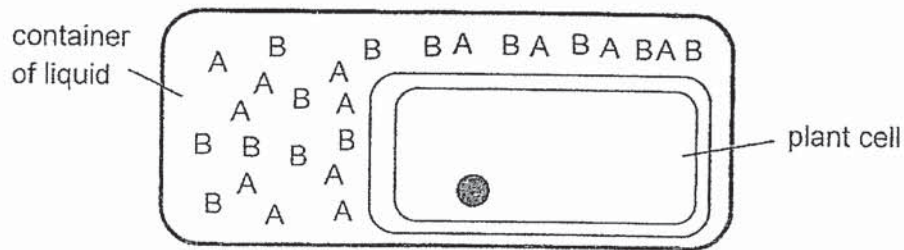


Diagram 2

After a few hours, the plant cell looked like that as shown in diagram 3.

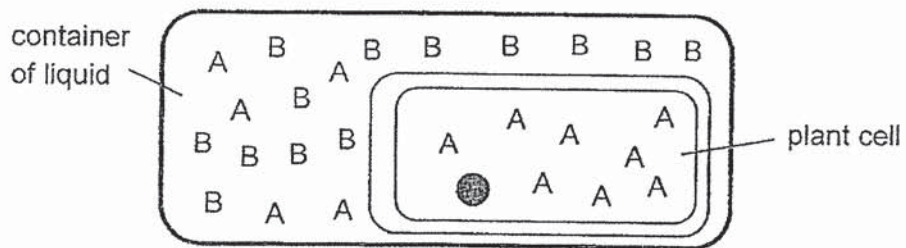
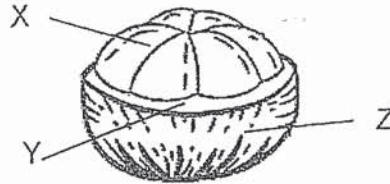


Diagram 3 (after a few hours)

Which part of the plant cell is responsible for the observation in diagram 3?

- (1) nucleus
- (2) cell wall
- (3) cytoplasm
- (4) cell membrane

9. The fruit below is dispersed by animals.



Which of the following help in this dispersal method?

- A: X is fleshy.
 B: Y is not sweet.
 C: Z gives out a nice scent.

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

10. Khalid dropped two seeds, J and K, from the same height.

some parts of
the seed have
been removed



seed J

seed with no
parts removed



seed K

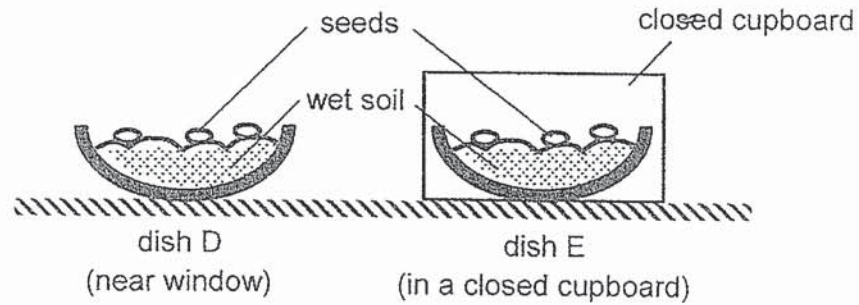
He recorded the time taken by each seed to reach the ground.

Which one of the following is most likely to be the correct time taken for the seeds to reach the ground?

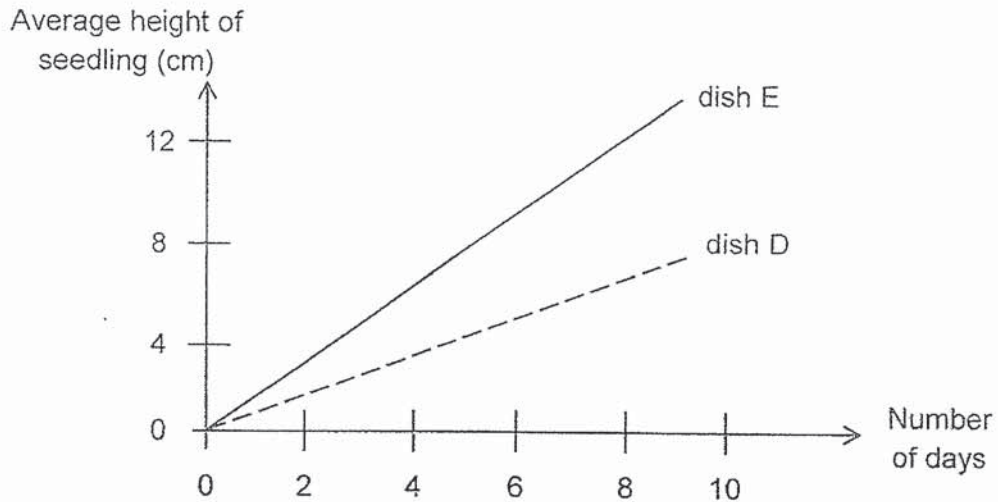
	Time taken for J to reach the ground (seconds)	Time taken for K to reach the ground (seconds)
(1)	4.5	3.2
(2)	3.2	3.2
(3)	4.5	4.5
(4)	3.2	4.5

11. Germaine placed three similar seeds in each of the two similar dishes, D and E, which contained wet soil. She placed dish D near the window in her room and dish E in a closed cupboard.

The experimental set-up is shown below.



Germaine recorded her observations in the graph below.



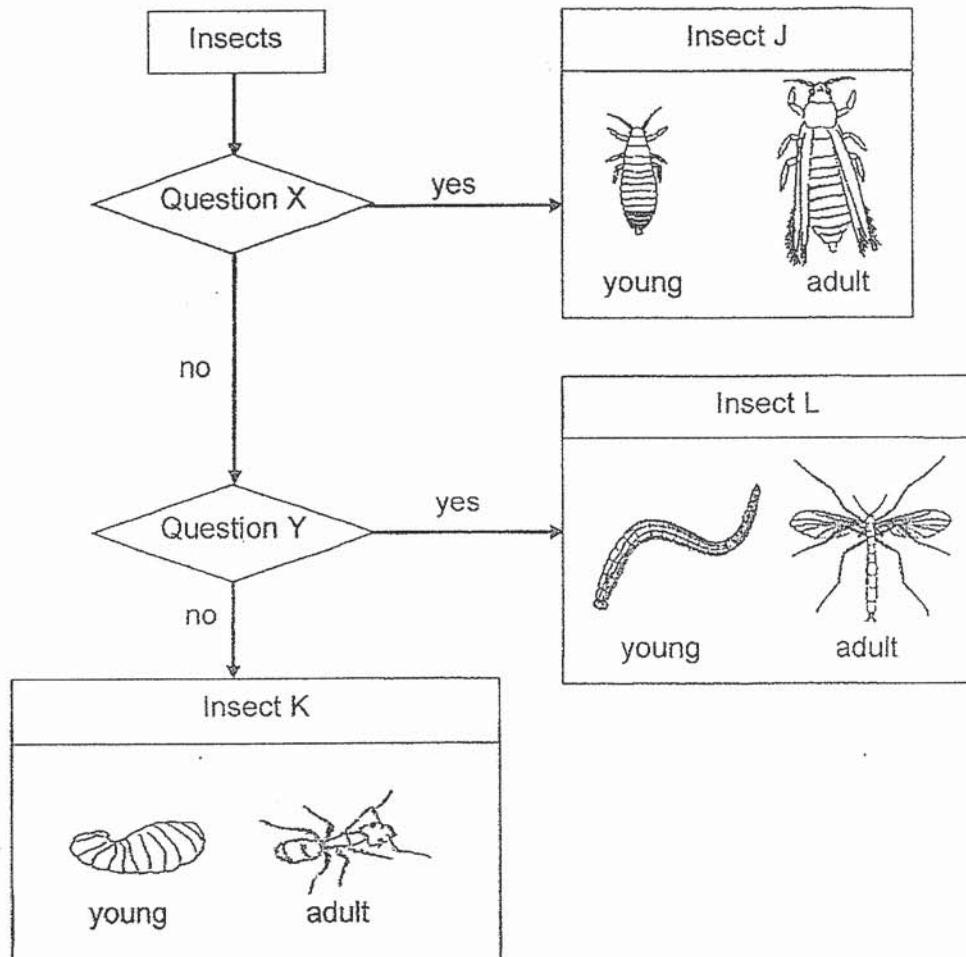
She made the following statements about her observation.

- A: Light was necessary for the seeds to germinate.
B: The seeds in dish E did not have air to germinate.
C: The seedlings in the dark grew taller than those in the light.

Which statement(s) is/are correct?

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

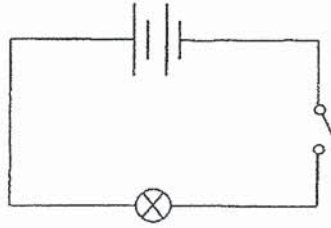
12. Sheena classified three insects J, K and L using the chart as shown below.



What are the two questions, X and Y?

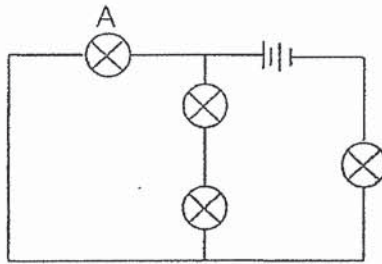
	Question X	Question Y
(1)	Does it have a 3-stage life cycle?	Does the young have a narrow body?
(2)	Does it have a 4-stage life cycle?	Does the adult have wings?
(3)	Does it have a 3-stage life cycle?	Does the adult have feathers?
(4)	Does it have a 4-stage life cycle?	Does the young have a narrow body?

13. Wenfeng set up a circuit as shown.



When he closed the switch, the bulb lit up. What can he do to make the bulb brighter?

- (1) use more batteries
 - (2) close the switch more quickly
 - (3) place the bulb closer to the battery
 - (4) change the direction of the batteries
14. Study the electrical circuit shown below.



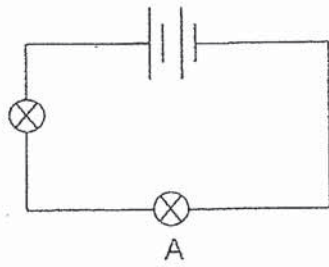
How many bulbs will remain lighted up if bulb A fuses?

- (1) 0
- (2) 1
- (3) 2
- (4) 3

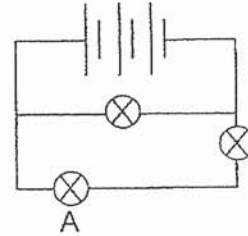
15. Dominic set up four different circuits using identical bulbs and batteries as shown.

In which circuit would bulb A be the brightest?

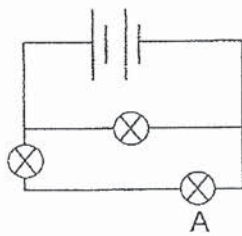
(1)



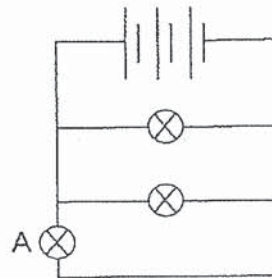
(2)



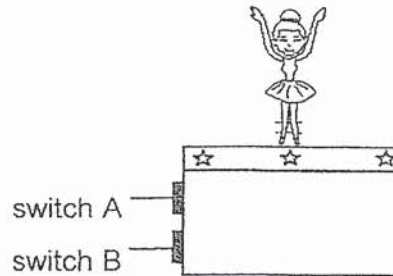
(3)



(4)



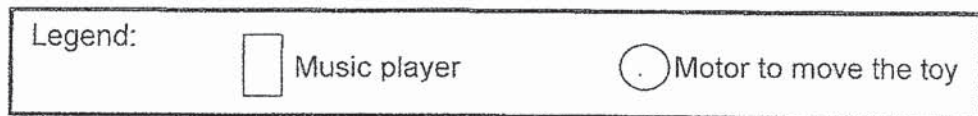
16. Farah has an electrical musical box that has a ballerina dancing to the music. There are two switches which control the music and ballerina separately, as shown below.



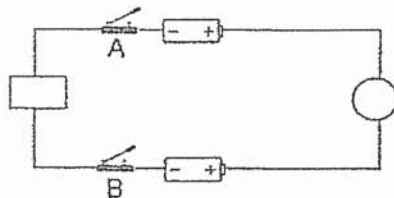
The table shows her observations when the switches are turned on.

Switches turned on	Observations	
	Ballerina danced	Music played
A and B	✓	✓
A only	✓	
B only		✓

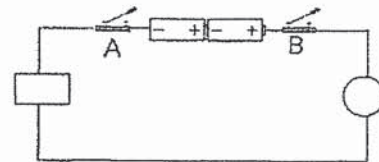
Which one of the circuit below is a possible circuit that the electrical musical box has?



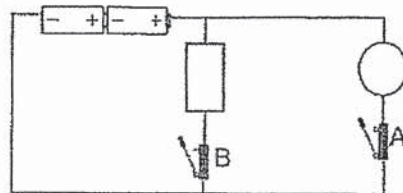
(1)



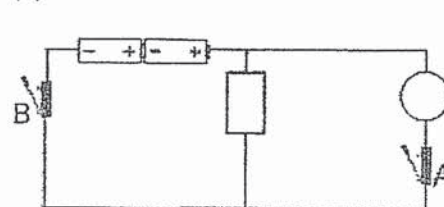
(2)



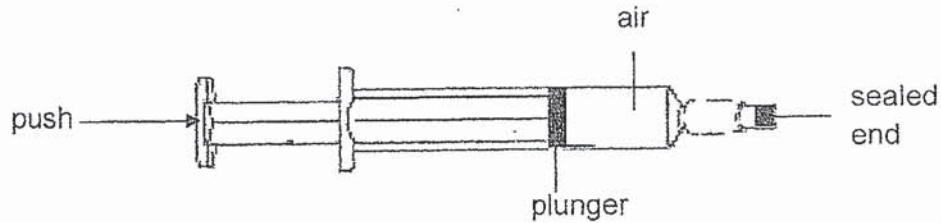
(3)



(4)

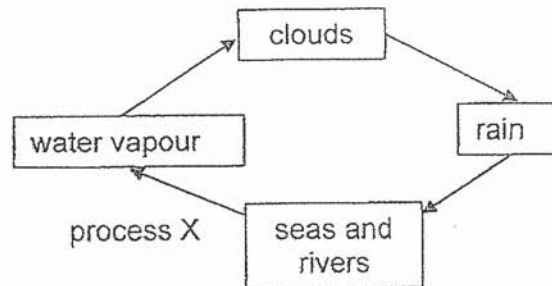


17. The syringe below contains air and has a sealed end. Minh tried to push the plunger and observed that the plunger could still be pushed.



Why was Minh able to push the plunger?

- (1) air has weight
 - (2) air occupies space
 - (3) air has no definite shape
 - (4) air has no definite volume
18. Study the diagram of the water cycle shown below.



Which of the following describes process X and the state of matter for clouds correctly?

	Process X	State of matter for clouds
(1)	Condensation	gas
(2)	Condensation	liquid
(3)	Evaporation	gas
(4)	Evaporation	liquid

19. Substance P is a solid at 56°C and a gas at 145°C. Which of the following is possible?

	Melting point of P (°C)	Boiling point of P (°C)
(1)	70	125
(2)	70	150
(3)	50	125
(4)	50	150

20. Four wet towels of similar size were hung in the garden to dry. The masses of the four towels were measured when the towels were first hung and at every one-hour intervals.

The table below shows the masses of the four towels at different timings.

Time	Towel P (kg)	Towel Q (kg)	Towel R (kg)	Towel S (kg)
11 a.m.	3.0	3.0	2.0	2.0
12 noon	2.5	2.2	1.6	1.8
1 p.m.	1.6	1.1	0.9	1.4
2 p.m.	1.2	1.1	0.9	1.2

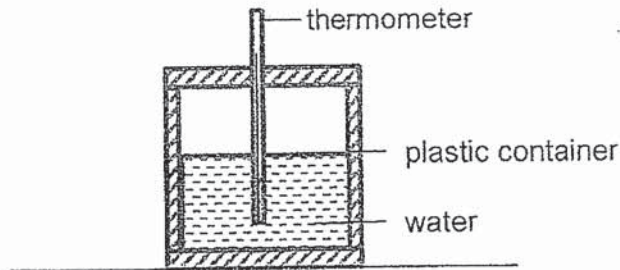
Which of the statements is true?

- (1) Towel R and S were completely dry at 2 p.m.
 - (2) Towel P and Q were still wet at 2 p.m.
 - (3) Towel R dry faster than towel S.
 - (4) Towel Q dry slower than towel P.
21. Ahmad placed a cup and a bowl in a refrigerator overnight. The next morning, he removed both the cup and bowl at the same time. His hands felt that the bowl was colder than the cup.

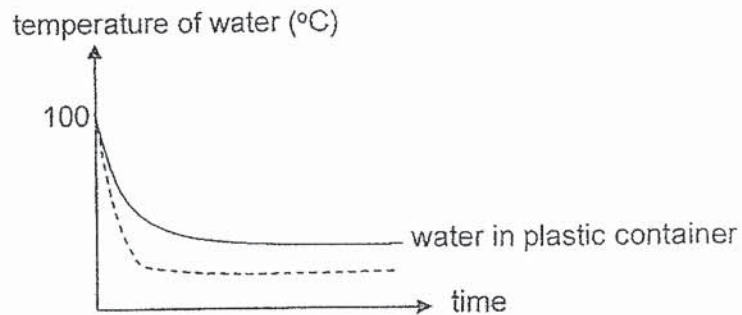
Which of the following explains why he felt that way?

- (1) The bowl took in more cold air than the cup.
- (2) The bowl conducted heat away better than the cup.
- (3) The bowl had lesser surface area than the cup.
- (4) The bowl was at a lower temperature than the cup.

22. A plastic container was filled with some water at 100 °C and left on the table as shown below.



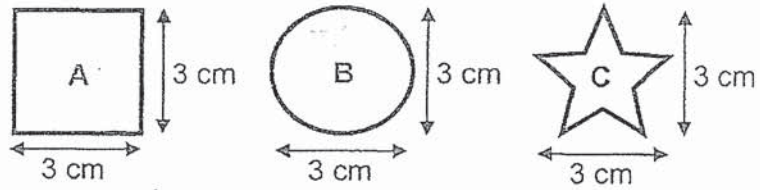
The temperature of the water in the set-up was measured and the result is shown in the graph below. Another graph (dotted) is recorded as shown.



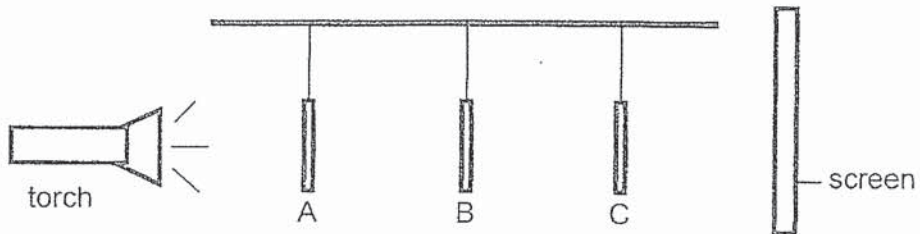
Which of the following changes to the set-up will result in the dotted graph?

- (1) Use a more accurate thermometer. ✗
- (2) Leave the set-up to cool down in the refrigerator.
- (3) Use a container made of metal instead of plastic.
- (4) Put water at a temperature lower than 100 °C in the container at the start of the experiment. ✗

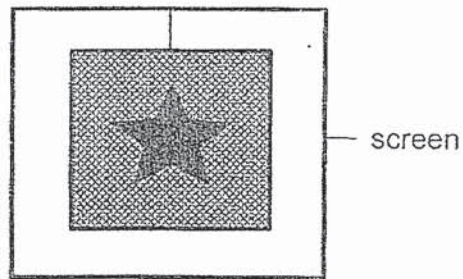
23. Dingwei set up an experiment in a dark room using three cut-outs of different shape and material, as shown below.



The three cut-outs were hung from the ceiling at equal distance from each other and a torch was shone as shown below.



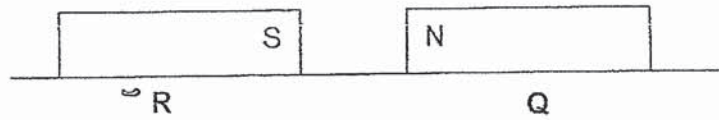
The diagram below shows the shadow that was cast on the screen.



Which one of the following correctly represents the materials of the objects?

	A	B	C
(1)	clear plastic	tracing paper	cardboard
(2)	cardboard	clear plastic	tracing paper
(3)	tracing paper	cardboard	clear plastic
(4)	tracing paper	clear plastic	cardboard

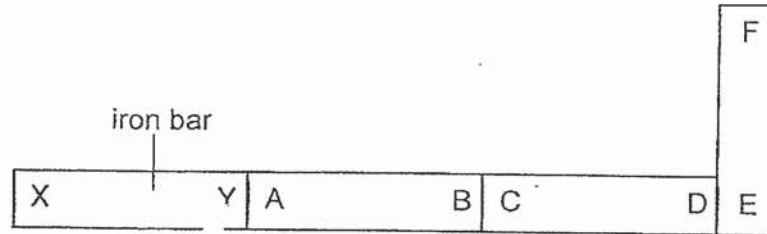
24. Two magnets R and Q were placed close together with their poles as shown.



If magnet R was moved towards magnet Q, which of the following shows the direction of the magnetic force, frictional force and gravitational force acting on R?

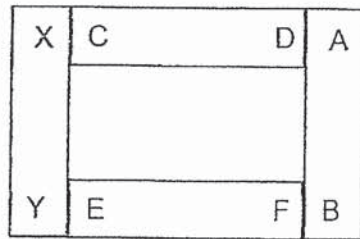
	Magnetic force	Frictional force	Gravitational force
(1)	←	→	↑
(2)	→	→	↑
(3)	←	←	↓
(4)	→	←	↓

25. An iron bar, XY, and three magnets are shown in the arrangement below.

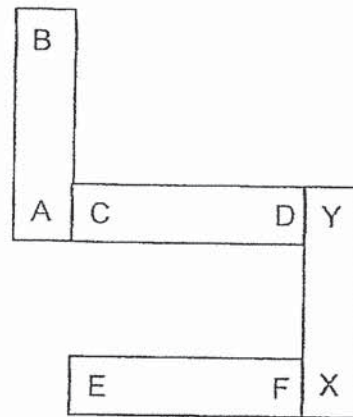


If the iron bar and magnets are re-arranged, which of the following arrangement is possible?

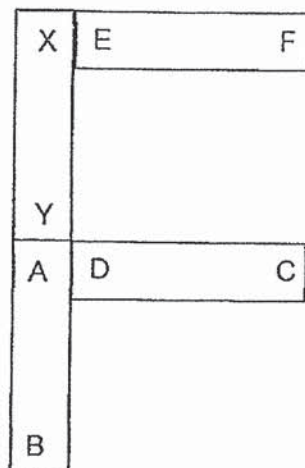
(1)



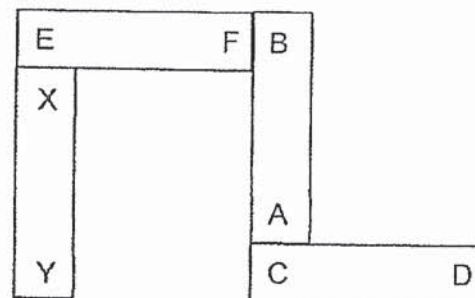
(2)



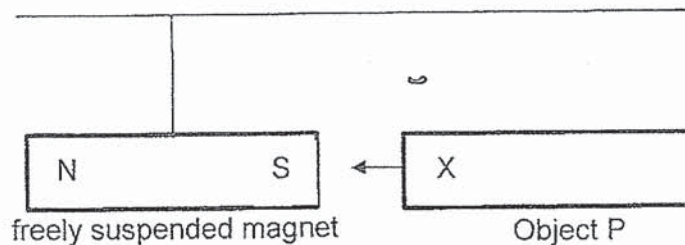
(3)



(4)



26. Object P was brought near both poles of a freely suspended magnet one at a time.



The experiment was repeated with objects Q, R and S. The observations are recorded in the table below.

Object	When X was brought near the North pole of the magnet	When X was brought near the South pole of the magnet
P	No response	No response
Q	Attracted	Attracted
R	Repelled	Attracted
S	Attracted	Attracted

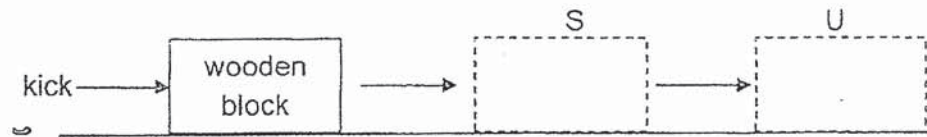
Three statements were made by a student based on the observations.

- A: Objects P, Q and S are not magnets.
- B: Objects Q and S are magnetic materials and object R is a magnet.
- C: Object P is a magnetic material and objects Q, R and S are magnets.

Which of the statement(s) above is/are correct?

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

27. A girl gave a kick to a wooden block. The wooden block moved along the floor to S and then to U. It stopped at U.

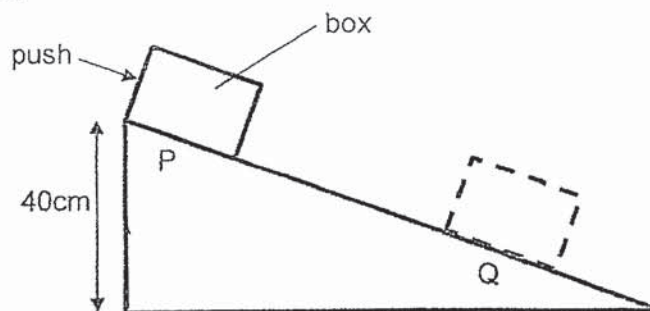


Which of the statements are correct?

- A: There was friction acting on the wooden block at U.
- B: There was friction acting on the wooden block at S.
- C: There was weight acting on the wooden block at S.
- D: There was weight acting on the wooden block at U.

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

28. A box was pushed from point P. The box moved down the slope and stopped at point Q.



Which of the following statement is correct?

- (1) There was no force acting on the box at point Q.
- (2) Gravitational force acting on the box was greater at point P than Q.
- (3) Gravitational force acting on the box was greater at point Q than P.
- (4) Gravitational force acting on the box was the same at point P and Q.

END OF BOOKLET A



RED SWASTIKA SCHOOL

SCIENCE 2019 SEMESTRAL EXAMINATION 2 PRIMARY 5

Name : _____ ()

Class : Primary 5/ _____

Date : 29 October 2019

BOOKLET B

12 Questions
44 Marks

In this booklet, you should have the following:

- a. Page 20 to Page 32
- b. Questions 29 to 40

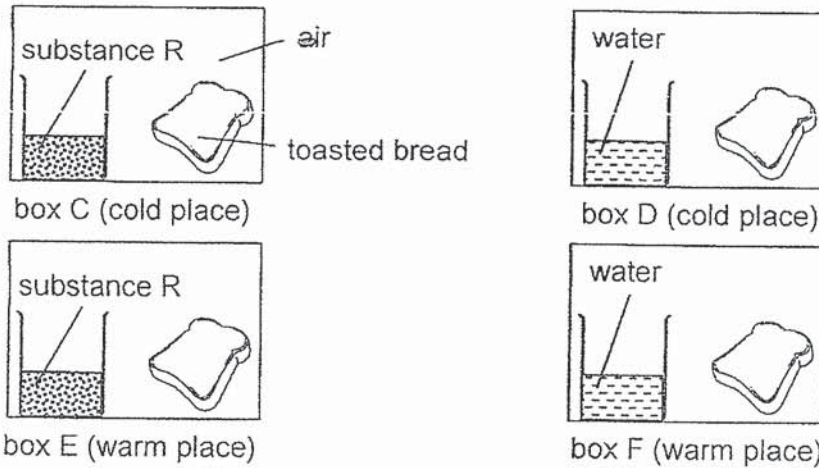
MARKS

	OBTAINED	POSSIBLE
BOOKLET A		56
BOOKLET B		44
TOTAL		100

Parent's Signature : _____

Answer all the questions in the spaces provided.

29. Andrew set up an experiment as shown below using four slices of toasted bread. He placed boxes C and D in a cold place and boxes E and F in a warm place. Substance R absorbs and removes gas X from the surrounding air.



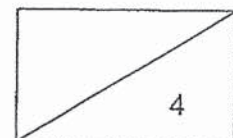
After a few days, Andrew noticed patches of bread mould appearing on the slices of bread in boxes D and F, but not on the slices of bread in boxes C and E.

- (a) Explain which bread, in boxes D or F, has more bread mould on it. (1m)

- (b) What could gas X possibly be? (1m)

- (c) Explain your answer in (b). (1m)

- (d) Based on the experiment Andrew had conducted, identify one way he could store his leather bag so that mould would not grow easily on the bag. (1m)



30. Farah conducted an experiment to find out how the number of star jumps she did affected her heart rate. She recorded her results in the table below.

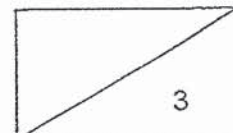
	heart rate before star jumps	heart rate after 20 star jumps	heart rate after 40 star jumps	heart rate after 60 star jumps
1 st attempt	64	79	95	112
2 nd attempt	62	40	93	110
3 rd attempt	63	80	92	108

- (a) Farah realised she had measured and recorded one of her heart rates wrongly.

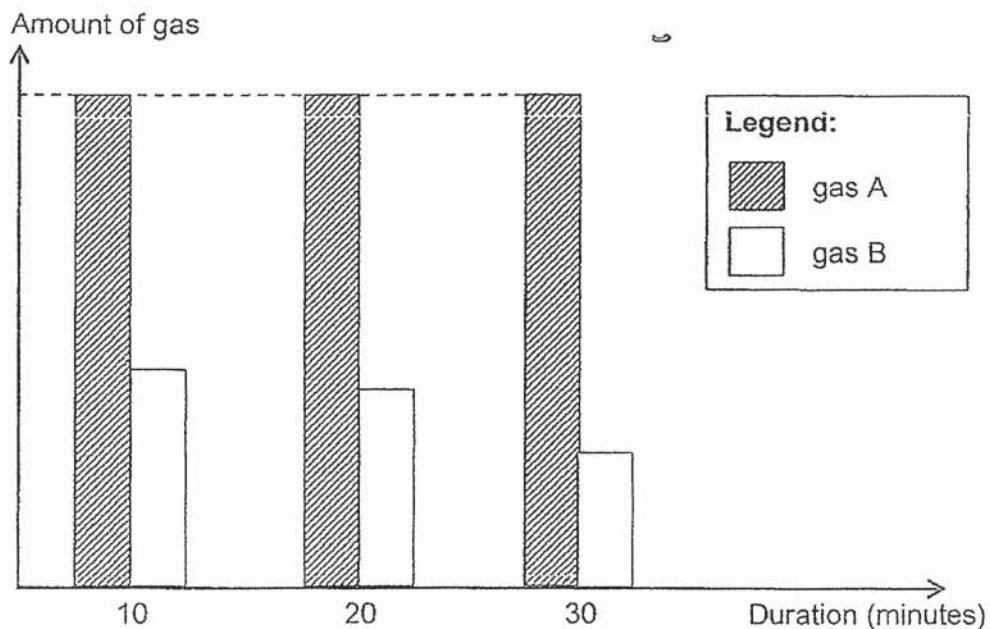
Circle on the table above which reading was wrongly measured. (1m)

- (b) What is the relationship between Farah's heart rate and the number of star jumps she did? (1m)

- (c) Why did Farah repeat the experiment three times? (1m)



31. Seven adults were trapped in a small lift for a period of time. They were still calm and sat still in the lift during the first 15 minutes. The graph below shows the amount of two different gases, A and B, in the air in the lift at different time periods.



- (a) Name gas A. (1m)

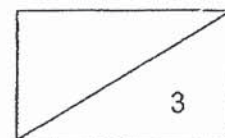
gas A: _____

- (b) After 20 minutes, the lift still did not move and gas B began to decrease more quickly than before when the adults started to knock and kick the lift door.

Identify gas B and explain how it decreased more quickly after 20 minutes. (2m)

gas B: _____

Explanation: _____



32. Joanne wanted to find out how the number of leaves affect the amount of water taken in by the lime plant. She prepared the experiment set-ups as shown in the table.

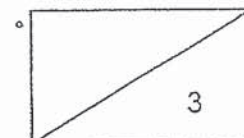
Set-up	Plant	Number of leaves on the plant	Amount of water in beaker (ml)	Location of set-up
X	Lime plant	20	300	Eco-Garden
Y	Lime plant	10	500	Science room

- (a) Joanne's teacher told her that her test was not fair. What are the two changes Joanne had to make to ensure her test is fair? (2m)

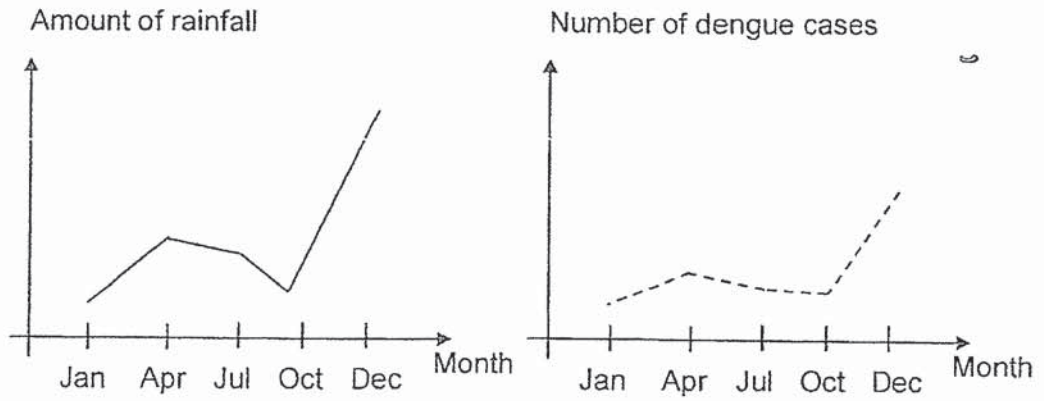
Change 1:

Change 2:

- (b) Joanne made the changes in part (a) and conducted the experiment. At the end of the experiment, what observation should she make to help her make a conclusion? (1m)



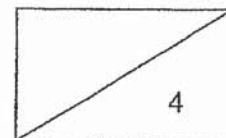
33. Dengue fever is a disease transmitted by the adult female *Aedes* mosquito. The graphs below show the number of dengue cases and amount of rainfall in Country X over a period of time.



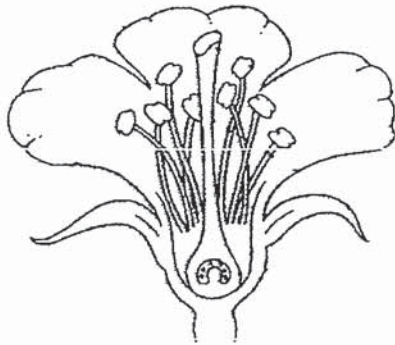
- (a) Which month had the most number of dengue cases? (1m)

- (b) How does the amount of rainfall affect the number of dengue cases? (1m)

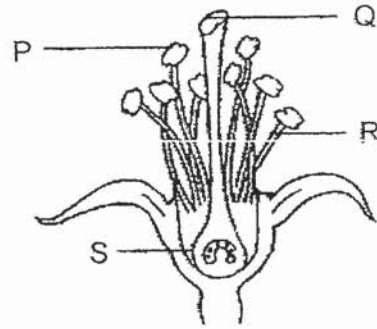
- (c) Explain the answer for part (b). (2m)



34. Jia En found a plant in her garden. The plant produced bright coloured flowers that were insect-pollinated. When these flowers bloomed, she would remove the petals. An example of the flower is shown below.



petals are intact



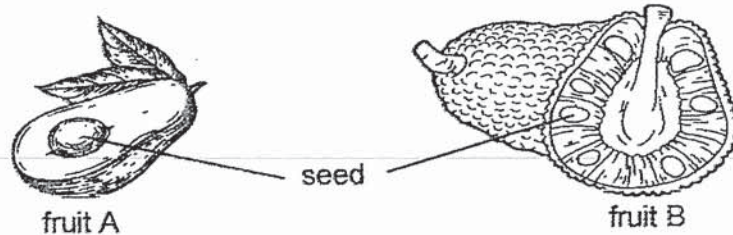
petals removed (Flower H)

- (a) Which parts, P, Q, R or S, are the male reproductive parts of the flower? (1m)

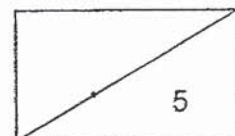
- (b) Identify part S of the flower. (1m)

- (c) Jia En noticed that the number of fruits produced by the flowers has decreased after the petals were removed when they bloomed. Explain why the number of fruits has decreased. (2m)

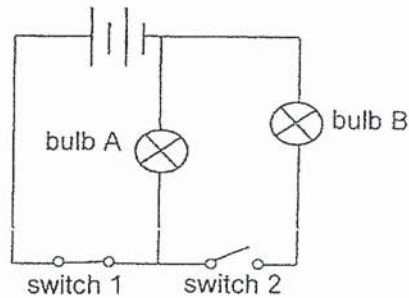
- (d)



Which of the two fruits above, A or B could flower H shown in the diagram produce? Explain why. (1m).



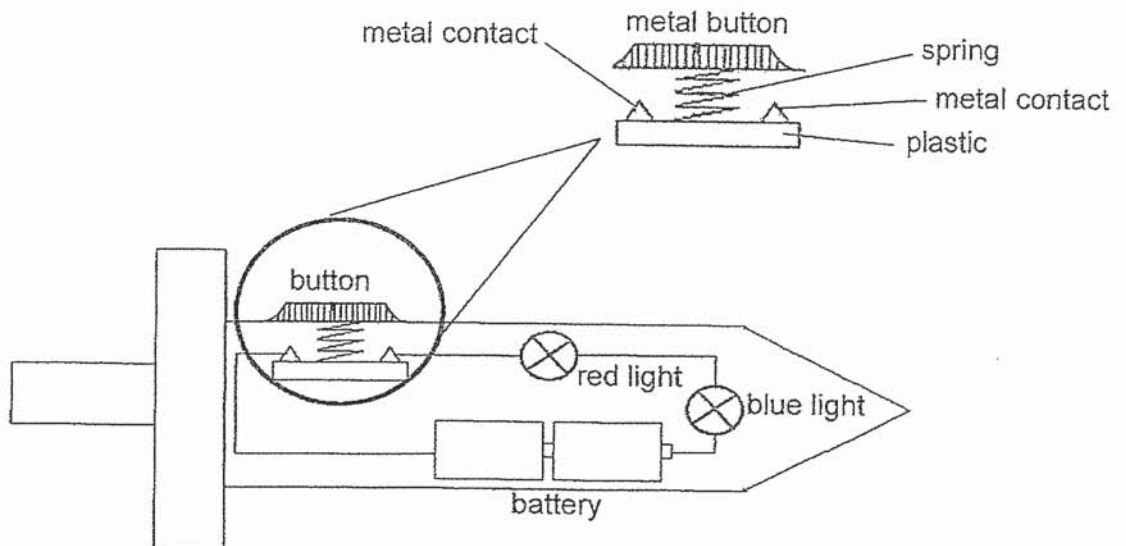
35. Two bulbs were connected in a circuit as shown below.



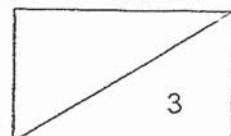
(a) Based on the circuit diagram above, complete the table by placing a tick (✓) in the appropriate boxes. (2m)

Conditions	Bulb A		Bulb B	
	Does not light up	Lights up	Does not light up	Lights up
Switch 1: closed Switch 2: open				

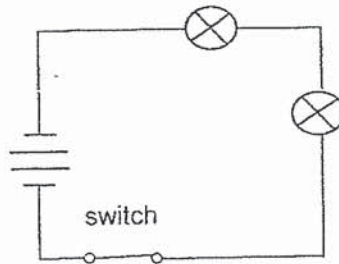
A toy sword is operated by two batteries. When the button is pressed, the sword will light up with two colours as shown below.



(b) (i) Explain why the toy sword lit up when the button was pressed. (1m)



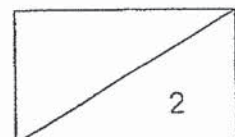
- (b) ii) John wanted to create a toy sword such that the red light can light up even when the blue light was not working. Based on this, he drew a circuit diagram to represent the circuit inside the toy sword.



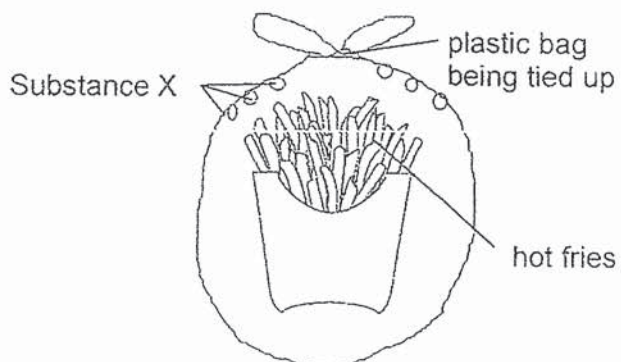
There were two mistakes made in his drawing. Identify the changes that he should make to correct his mistakes. (2m)

Change 1:

Change 2:



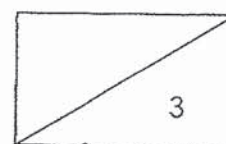
36. Patricia bought a packet of hot fries from a fast food restaurant. The fries were placed in a plastic bag and she tied it up as shown below.



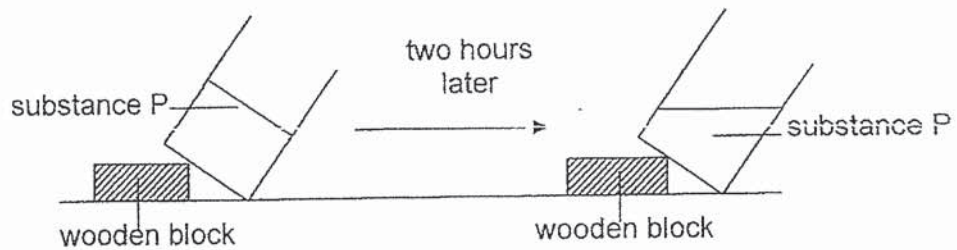
When she reached home, she observed that there were substance X formed on the inner surface of the plastic bag.

- (a) Identify what is substance X. (1m)

- (b) Explain how substance X formed on the inner surface of the plastic bag. (2m)

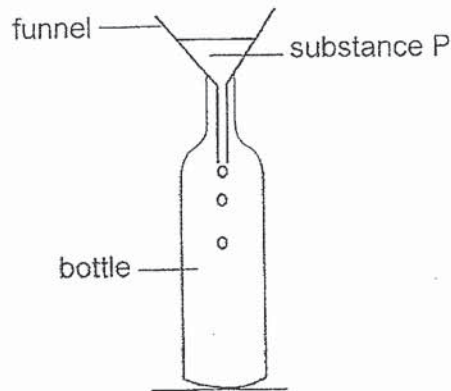


37. A beaker which contains substance P is left on the table for two hours. After two hours, the shape of substance P in the beaker changes as shown below.



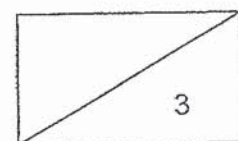
- (a) Which state of matter is substance P at the start of the experiment? (1m)

A funnel was used to fill a bottle with substance P as shown below.

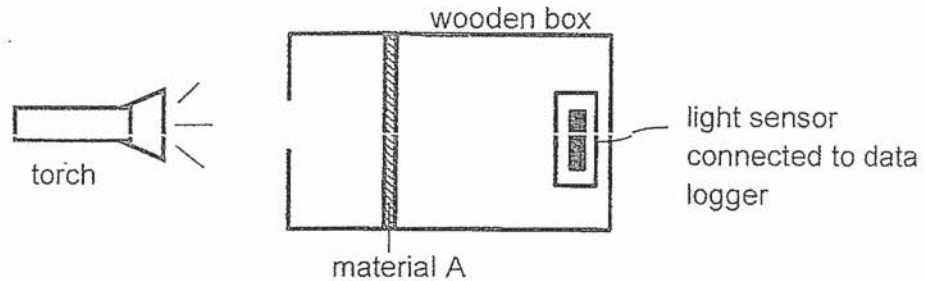


Substance P trickled slowly into the bottle at the start. After the funnel was lifted slightly above the mouth of the bottle, substance P entered the bottle at a faster rate.

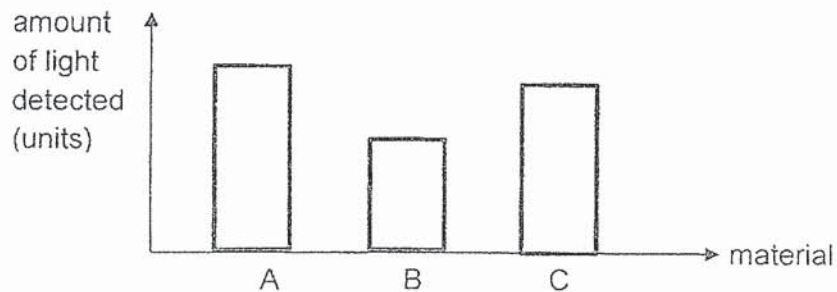
- (b) Explain the observation above. (2m)



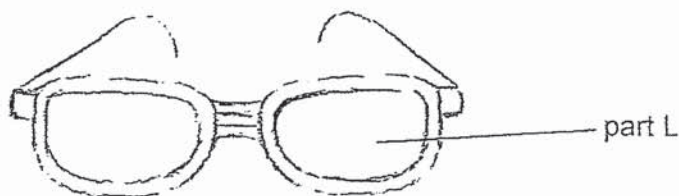
38. Melvin conducted an experiment as shown below. He positioned material A in a wooden box as shown in the set-up below and recorded the amount of light detected by the light sensor.



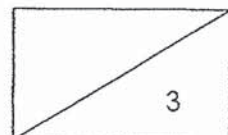
The experiment was repeated with materials B and C of the same size and thickness. The results are shown in the graph below.



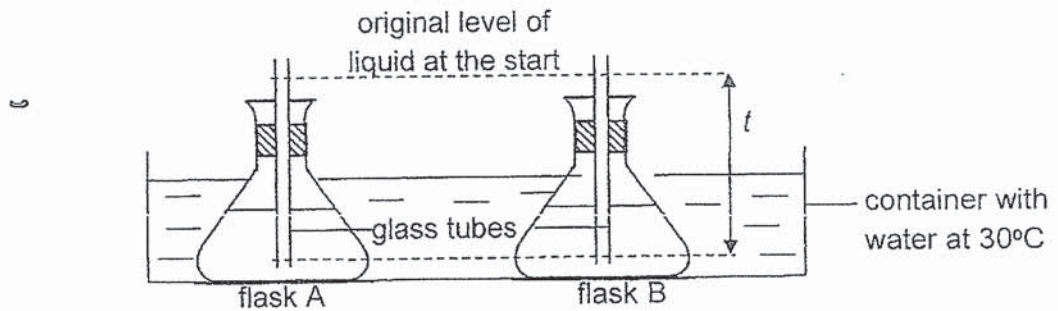
- (a) Based on the graph, what can Melvin conclude about material A? (1m)
-
- (b) Using the same set-up and materials, what is one way Melvin can increase the amount of light detected by the light sensor? (1m)
-
- (c) Melvin wanted to choose a material to make part L of his sunglasses.



Which material, A, B or C, is the most suitable? Explain your answer. (1m)



39. Anne set up the experiment as shown below.



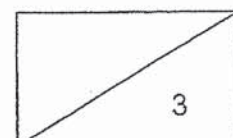
Anne made sure that the levels of both liquids in the glass tubes were the same at the start of the experiment. The liquids in both flask A and B were the same but the materials used to make flask A and B were different.

Anne observed the level of liquids in the glass tubes of both flasks when she added a bucket of ice cubes into the container. She recorded her results in the table below.

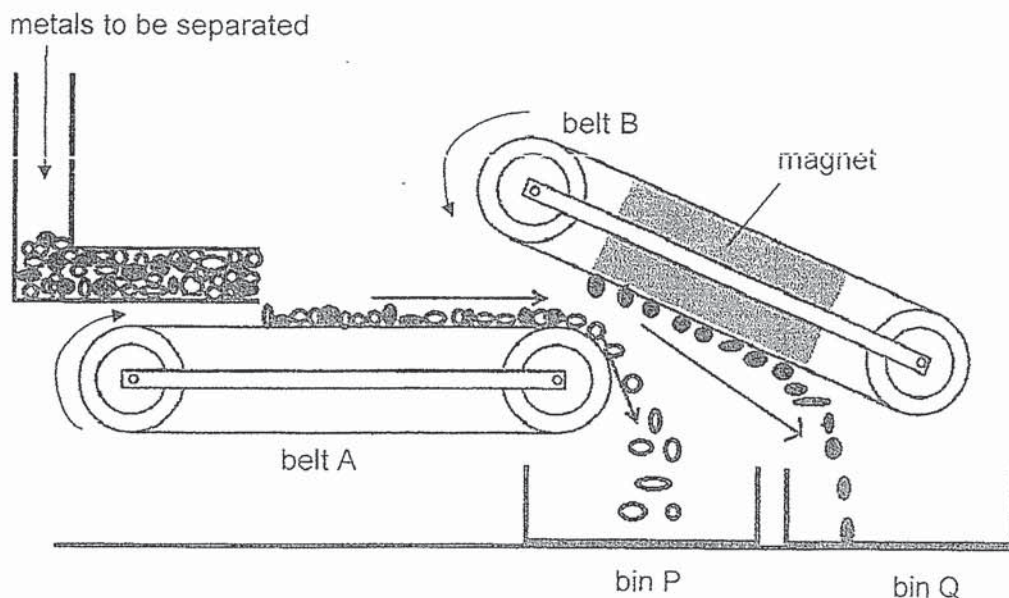
Time (min)	Length of t in glass tube of A (cm)	Length of t in glass tube of B (cm)
0	12	12
2	8	9
4	5	7
6	3	6

(a) Will the temperature of water in the container increase, decrease or remain the same when the bucket of ice cubes is added to the water? (1m)

(b) Based on the table, which flask is made of a material that is a better conductor of heat? Explain your answer. (2m)



40. The diagram shows a magnetic separator that is used to separate metals in a waste factory. The metals pass through two roller belts, A and B, which separate the metals into two bins, P and Q, as shown below.



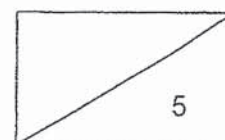
- (a) Name the force that causes the metals to
- (i) drop into bin P: _____ (0.5m)
- (ii) stay in contact with belt B: _____ (0.5m)

- (b) Give an example of a metal that can be collected in bin Q. (1m)

- (c) Explain how the magnetic separator works. (2m)

- (d) Some of the heavier metals that were supposed to drop into bin Q dropped into bin P instead. Suggest a way to ensure that the correct heavier metals drop into bin Q. (1m)

END OF BOOKLET B
PLEASE CHECK YOUR ANSWER



9

ANSWER KEY

YEAR : 2019
 LEVEL : PRIMARY 5
 SCHOOL : Red Swastika School
 SUBJECT : Science
 TYPE : Semestral Examination 2

Booklet A

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

Q29.

- a) Box F. Mould grows faster in a warmer place as compared to a colder place.
- b) Oxygen
- c) Bread mould need oxygen to grow and box E and F are placed inn the same place but bread mould only appeared on the bread in box F. Thus, oxygen is removed by substance X.
- d) Put his bag in a cooler place.

Q30.

- a) 40
- b) As the number of star jumps increases, Farah’s heart rate increases.
- c) So that the results of the experiment would be more reliable.

Q31.

- a) Nitrogen
- b) Oxygen. As knocking and kicking the lift door requires more energy, the adults would need more oxygen to convert into more energy.

Q32.

- a) 200ml more into set-up X. Move set-up Y to the eco-garden
- b) would be more water left in set-up Y.

Q33.

- a) December
- b) As the amount of rain fall increases, the number of dengue cases increases.
- c) As the mosquitoes lays eggs in water, the increased amount of rainfall creates more puddles of water for the mosquitoes to lay eggs on.

Q34.

- a) P and R
- b) Ovary

- c) The bright colored petals were to attract more insects to pollinate the flowers but after the bright colored petals were removed, lesser insects would be attracted to the flowers and pollinate them. Thus, lesser number of fruits produced by the flower.
- d) Fruit B. There are many ovules in the ovary, thus, there would be many seeds in the fruit, as shown in fruit B.

Q35.

- a) Lights up(A), Does not light up(B)
- b) i) When the button is pushed, the metal contacts would connect to the circuit, forming a closed circuit and electricity can pass through it and the toy sword will light up.
ii) change 1: Make the bulbs parallel to each other
change 2: Change one of the batteries so the positive side of the battery would be in contact with the negative side of the other battery.

Q36.

- a) Water droplets.
- b) The warmer water vapour inside the plastic bag came into contact with the cooler inner plastic bag, lost heat and condensed into water droplets.

Q37.

- a) Solid
- b) As occupies space, the air inside the bottle could not escape so substance P would trickle down slowly into the bottle. Thus, lifting the funnel above the mouth of the bottle let the air inside the bottle to escape and substance P would take up the space previously taken by the air.

Q38.

- a) Material A allows the most amount of light to pass through it.
- b) Move the torch nearer to the light sensor.
- c) B. As material B allows the least amount of light to pass through it, it is the most suitable to be part L of the sunglasses in order to block sunlight easily.

Q39.

- a) ~~ise.~~
- b) ~~The length t in tube A dropped quicker than the length of t in tube B. This shows that the water contracted faster in flask A, meaning it is a better conductor of heat than B.~~

Q40.

- a) Gravitational force, magnetic force
- b) Steel.
- c) The magnetic separator would attack all of the magnetic materials and drop them into bin Q, while the non-magnetic materials drops into bin P by belt A.
- d) Change the magnet into the magnetic separator to a stronger magnet.

3
3-11-12