

Name : \_\_\_\_\_ (      )

Class : Primary 5 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



**Primary 5**

**Termly Assessment 2**

**SCIENCE**

**BOOKLET A**

**11 May 2021**

**Total Time for Booklets A and B: 1 hour**

**18 questions**

**36 marks**

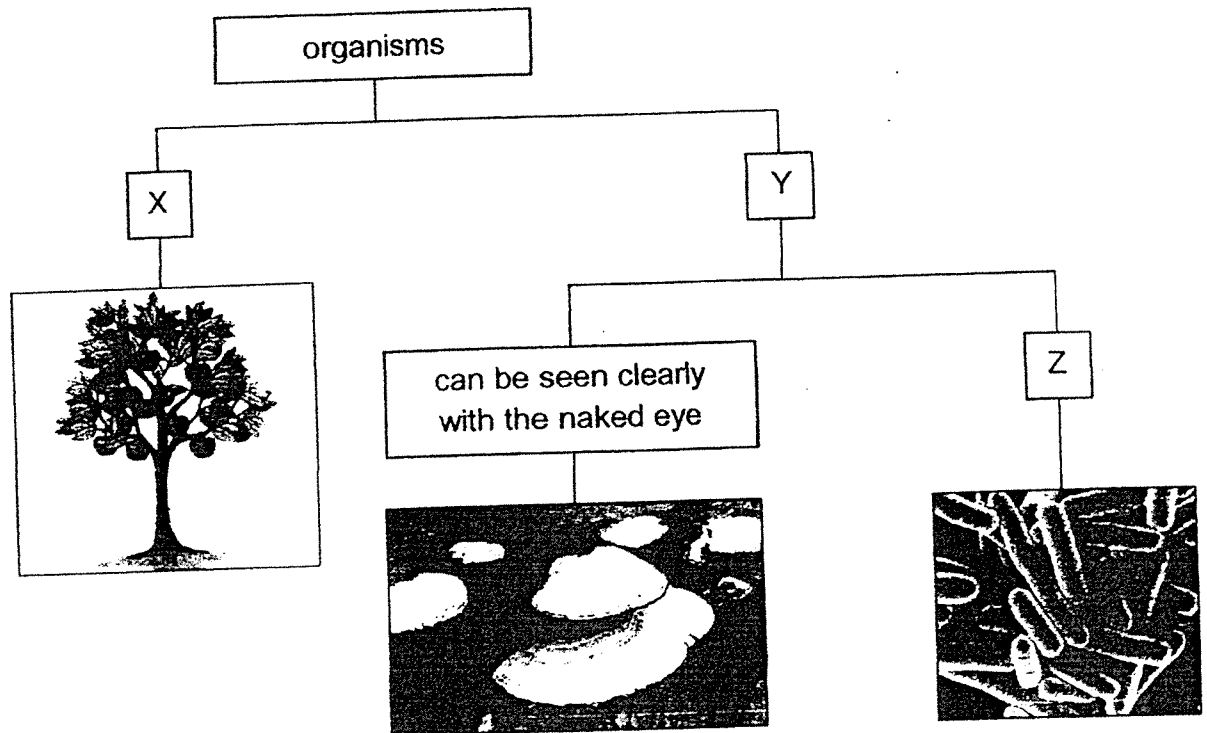
**Do not open this booklet until you are told to do so.  
Follow all instructions carefully.**

**This paper consists of 10 printed pages.**

**Section A (18 x 2 marks = 36 marks)**

For each question from 1 to 18, 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 provided.**

1. Study the chart below.



Which of the following is correct for X, Y and Z?

	X	Y	Z
(1)	unable to respond to changes in the environment	able to respond to changes in the environment	can be seen clearly with a magnifying glass
(2)	reproduces by seeds	reproduces by spores	can be seen clearly with a magnifying glass
(3)	reproduces by seeds	does not reproduce by seeds	can only be seen clearly with a microscope
(4)	able to grow	unable to grow	can only be seen clearly with a microscope

2. The characteristics of animals E and F are shown in the table below. A tick (✓) indicates the presence of the characteristic.

Characteristic	Animal E	Animal F
able to fly	✓	✓
has hair/fur	✓	
lays eggs		✓
only breathes through lungs	✓	✓

Which of the following animals are grouped correctly?

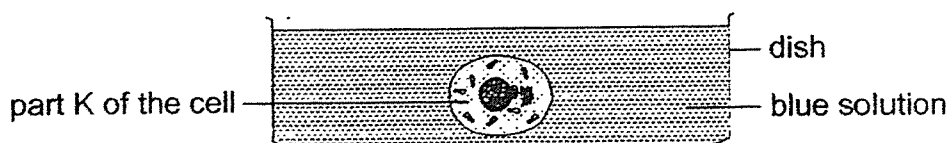
	Animal E	Animal F
(1)	eagle	frog
(2)	penguin	butterfly
(3)	mouse	crocodile
(4)	bat	parrot

3. Which of the following are the main functions of the roots of plants?

- A to absorb sunlight
- B to absorb water from the soil
- C to hold the plant firmly to the ground
- D to transport food to all other plant parts

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

4. A cell was placed into a dish containing some blue solution.



It was observed that part K of the cell turned blue after a few minutes.

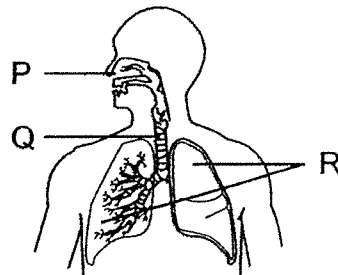
Which of the following cell structure(s) is/are responsible for the observation?

- (1) nucleus only
- (2) cell membrane only
- (3) nucleus and cell wall only
- (4) cell membrane and cell wall only

5. Which of the following is true about the difference between inhaled and exhaled air?

- (1) Inhaled air is warmer than exhaled air.
- (2) Inhaled air has more oxygen than exhaled air.
- (3) Inhaled air has more nitrogen than exhaled air.
- (4) Inhaled air has more water vapour than exhaled air.

6. The diagram below shows the human respiratory system.

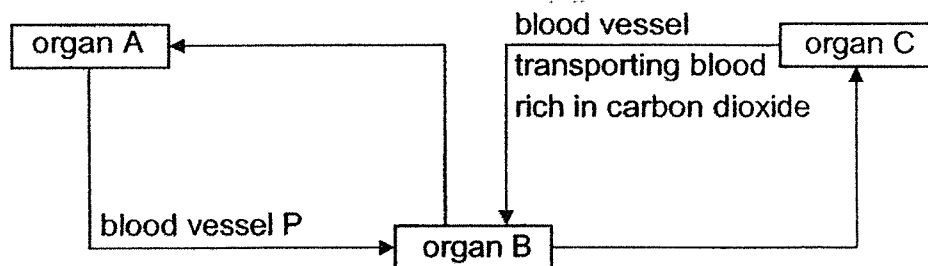


Which of the following statements are correct about the human respiratory system?

- A Part Q is the windpipe.
- B Only oxygen is inhaled at P.
- C Carbon dioxide is removed from the bloodstream at R.

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

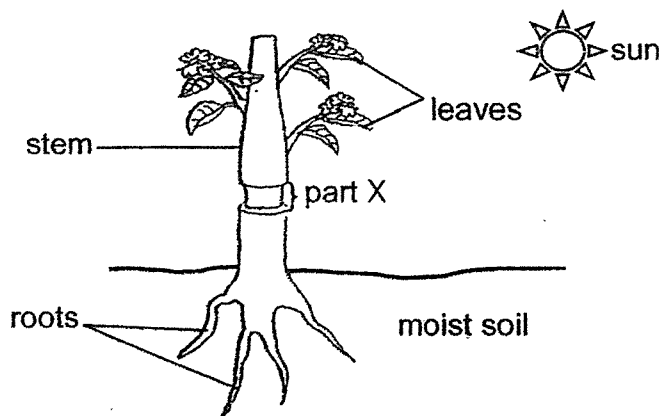
7. The diagram below shows the flow of blood in the human circulatory system.



Which of the following best represents A, B, C and P?

	Organ A	Organ B	Organ C	Blood in Blood Vessel P
(1)	small intestine	heart	lungs	rich in carbon dioxide
(2)	lungs	heart	small intestine	rich in oxygen
(3)	heart	lungs	small intestine	rich in carbon dioxide
(4)	heart	lungs	small intestine	rich in oxygen

8. The diagram below shows a plant with food-carrying tubes completely removed at part X.



It was observed that the roots of the plant died after some time.

Which of the following reasons correctly explains the observation?

- (1) The stem was unable to hold the plant upright.
  - (2) The leaves were unable to receive enough water.
  - (3) The stem was unable to transport food to the roots.
  - (4) The leaves were unable to receive enough sunlight.
9. The table below shows the properties of materials A, B, C and D. A tick (✓) indicates that the material has that property.

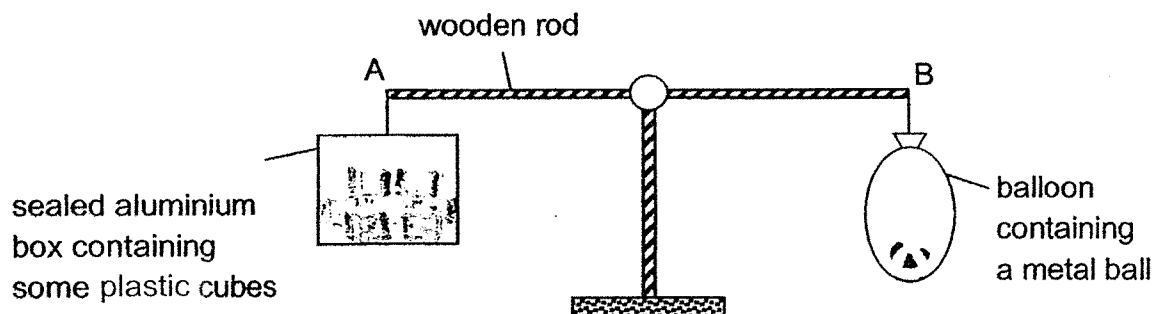
Material	Property			
	Waterproof	Strong	Flexible	Float/Sink in Water
A	✓	✓	✓	float
B		✓		float
C	✓	✓		sink
D			✓	sink

Which of the materials is most suitable for making part X of the inflatable life raft?



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

10. The diagram below shows the set-up of a beam balance at the start of an experiment. Some items were attached using a string at each end of the wooden rod.

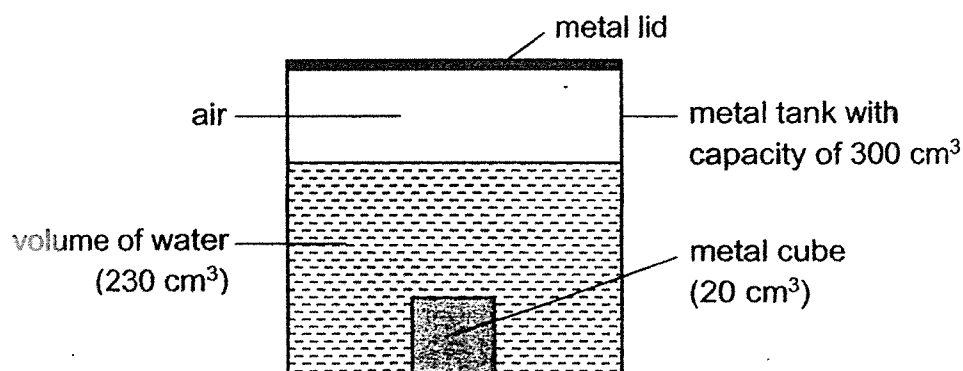


The set-up was left outdoors under the Sun for about 5 hours.

Which of the following observation(s) is/are possible after 5 hours?

- A Rod AB remained balanced.
  - B Rod AB tilted downwards at A.
  - C Rod AB tilted downwards at B.
  - D The rubber balloon became larger.
- (1) A only  
 (2) B only  
 (3) A and D only  
 (4) B and C only

11. Study the set-up below.

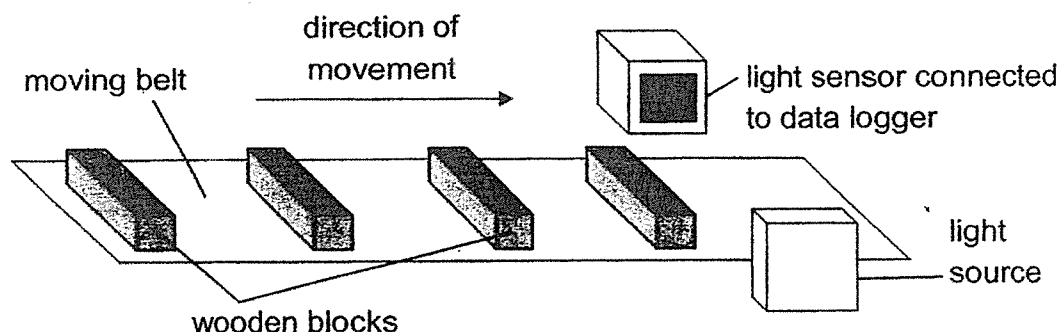


Peter added another identical metal cube into the tank.

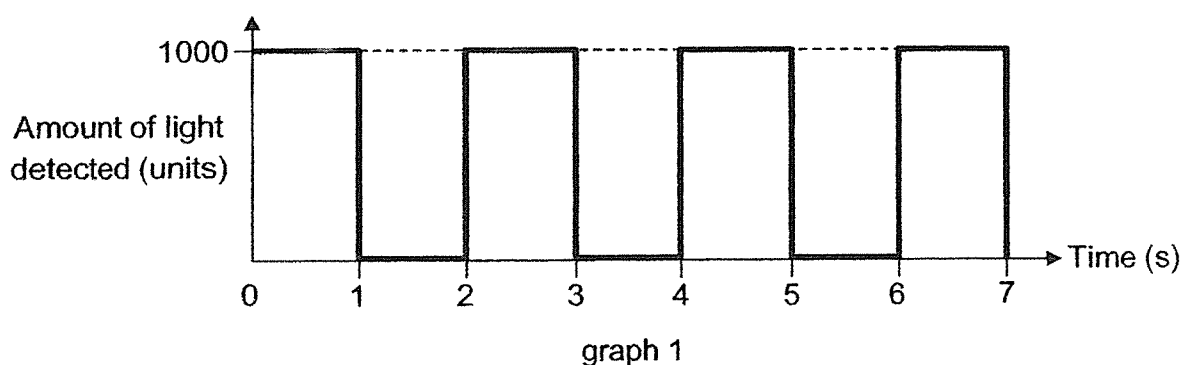
What will be the final volume of air inside the tank?

- (1) 10 cm<sup>3</sup>  
 (2) 20 cm<sup>3</sup>  
 (3) 30 cm<sup>3</sup>  
 (4) 40 cm<sup>3</sup>

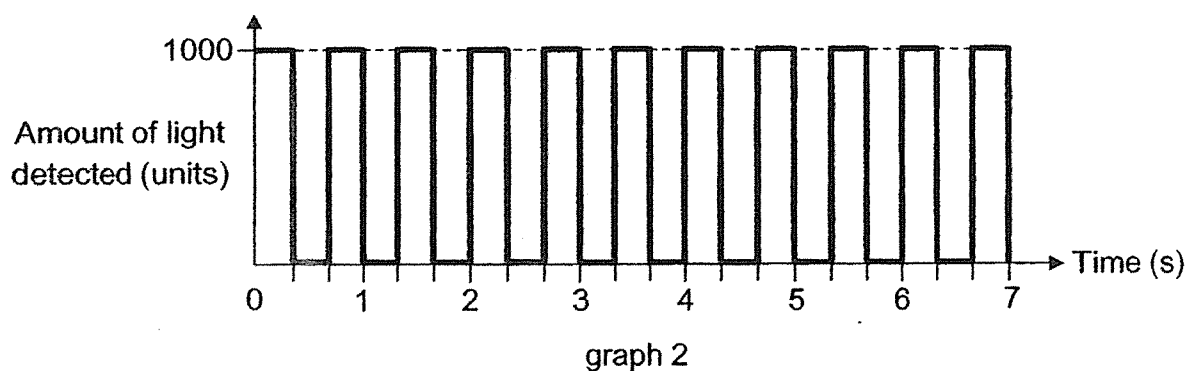
12. Tanya conducted an experiment using a light sensor to count the number of similar wooden blocks on a moving belt as shown below.



The belt moved at a constant speed and the results were recorded in graph 1 below.



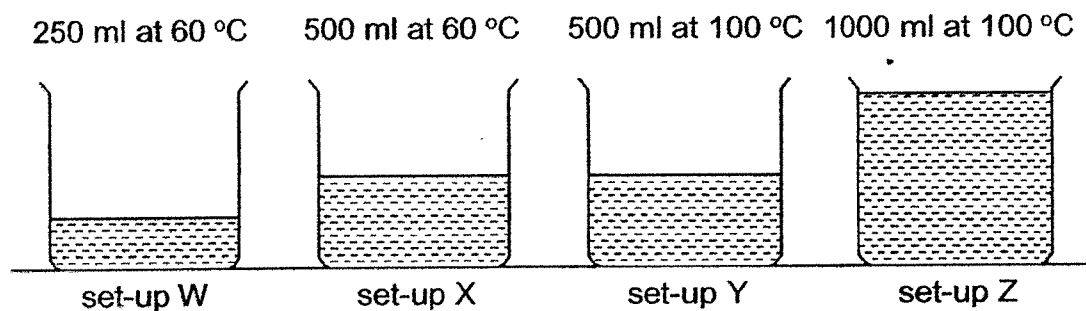
Tanya later made an adjustment to the set-up above which then resulted in graph 2 below.



Which of the following adjustments could have been made by her?

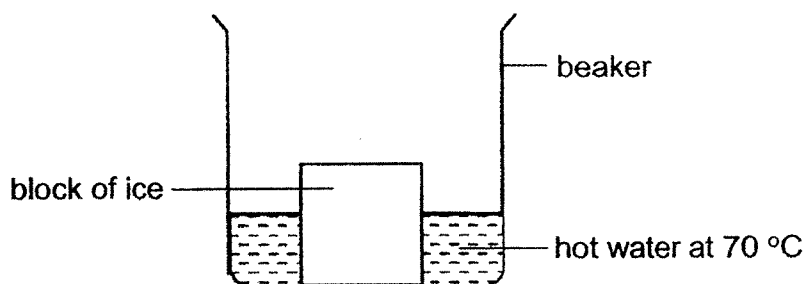
- (1) She used larger identical wooden blocks.
- (2) She increased the light intensity of the light source.
- (3) She increased the size of the space between the wooden blocks.
- (4) She decreased the size of the space between the wooden blocks.

13. An experiment was conducted to find out if the volume of the water will affect the water temperature over a period of time. Four identical containers W, X, Y and Z were filled with different amounts of water at different temperatures.



Which two set-ups should be used in order to ensure a fair test?

- (1) X and Y only
  - (2) X and Z only
  - (3) W and Y only
  - (4) Y and Z only
14. Study the diagram below.

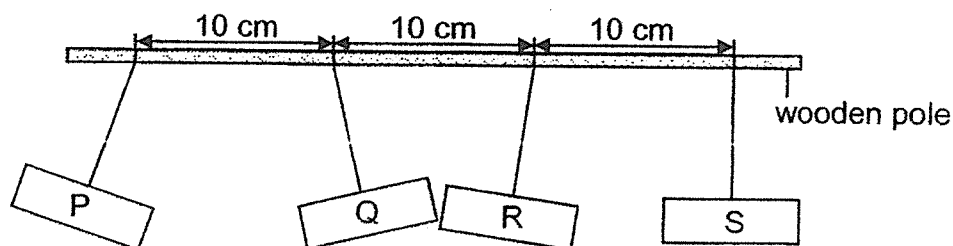


Which of the following observations about the ice block is possible after a few minutes?

	Size of ice block	Direction of heat flow	
		from	to
(1)	smaller	hot drink	ice block
(2)	smaller	ice block	hot drink
(3)	unchanged	hot drink	ice block
(4)	unchanged	ice block	hot drink



15. Four metal bars were hung from a wooden pole at an equal distance from each other. The diagram below shows the observations of the metal bars.

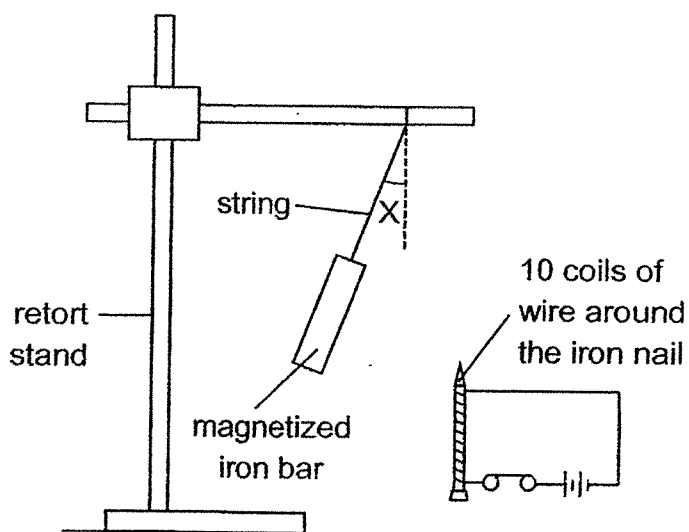


Which of the following can be concluded from the above observation?

- A P is a bar magnet.
- B Q is made of a magnetic material.
- C S is made of a non-magnetic material.
- D R has a weaker magnetic strength than Q.

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

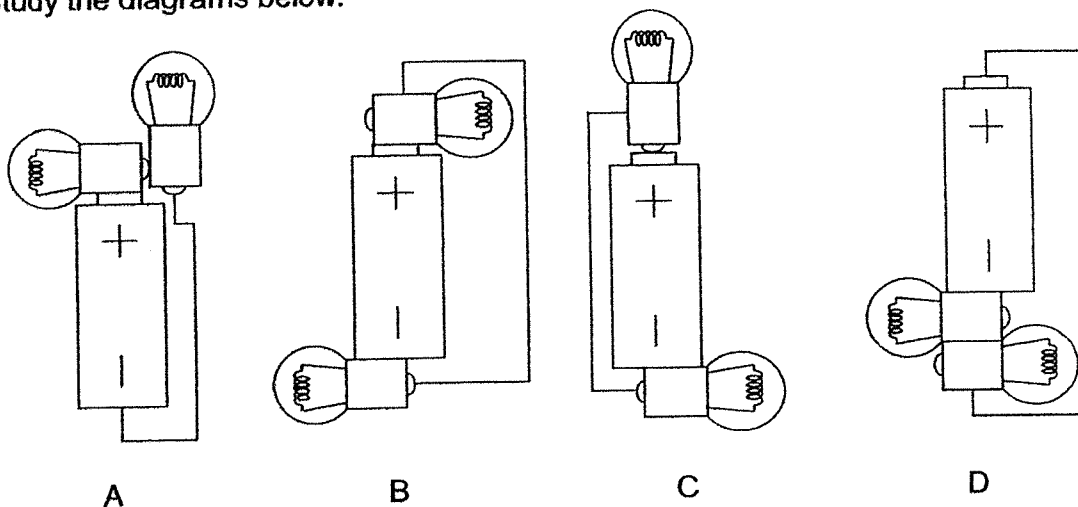
16. An experiment was conducted using the set-up below. When the switch was closed, angle X was formed.



Which of the following actions will increase the size of angle X?

- (1) Use a longer iron nail.
- (2) Connect fewer batteries in series.
- (3) Replace the the iron bar with an aluminium bar.
- (4) Increase the number of coils of wire around the iron nail.

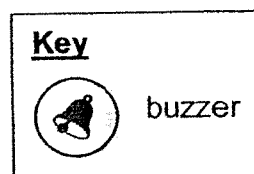
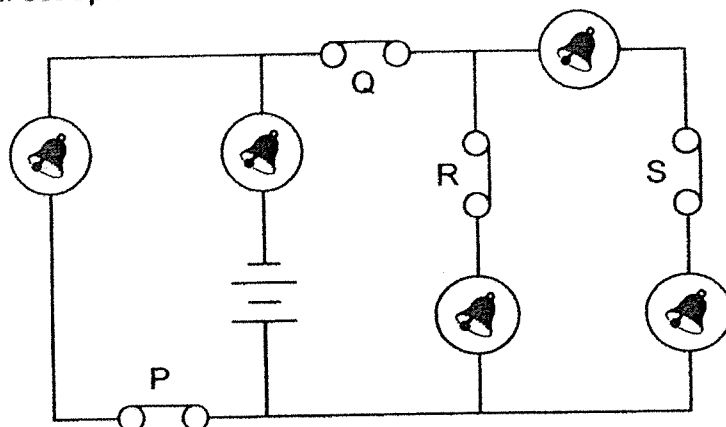
17. Study the diagrams below.



In which of the above arrangements will both bulbs light up?

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

18. Arif set up the circuit as shown.



All five buzzers rang when all four switches were closed.

He wanted the least number of buzzers to ring by opening only one switch.

What switch should he open?

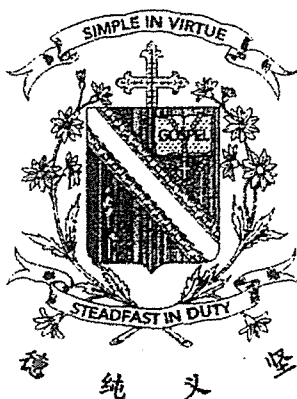
- (1) P
- (2) Q
- (3) R
- (4) S

END OF BOOKLET A

Name : \_\_\_\_\_ (      )

Class : Primary 5 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5

Termly Assessment 2

SCIENCE

BOOKLET B

11 May 2021

Total Time for Booklets A and B: 1 hour

5 questions  
14 marks

Do not open this booklet until you are told to do so.  
Follow all instructions carefully.  
Answer all questions.

This booklet consists of 6 printed pages.

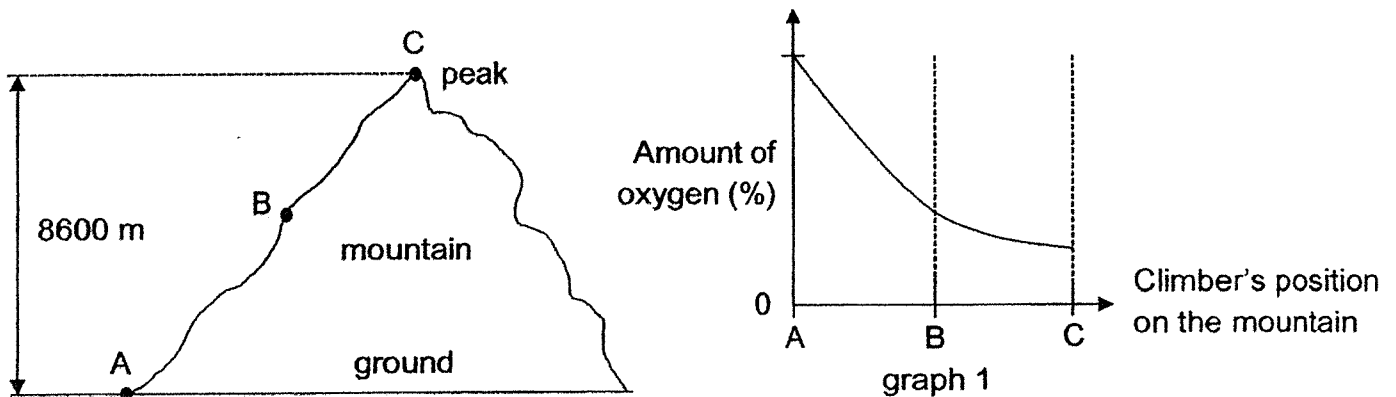
Booklet A	36
Booklet B	14
Total	50

\_\_\_\_\_  
Parent's Signature/Date

**Section B (14 marks)**

For questions 19 to 23, write your answers in this booklet. The number of marks available is shown in the brackets at the end of each question or part question.

19. The diagram below shows a mountain of height 8600 m from the ground. Graph 1 shows how the amount of oxygen in the surrounding air changes with the position of a mountain climber as he climbs from A to B to C.



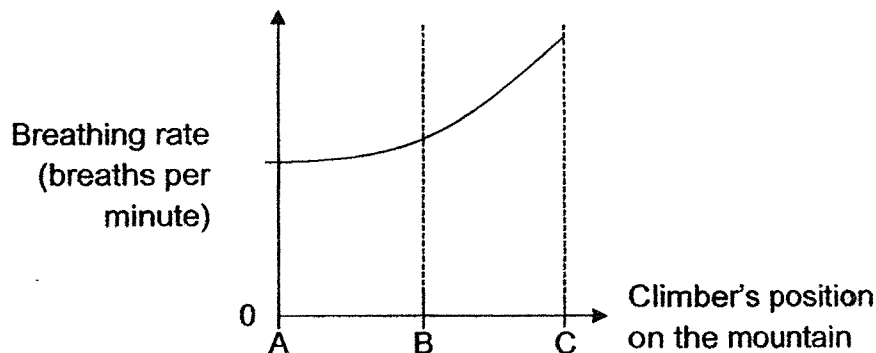
- (a) Based on graph 1, how does the amount of oxygen change with the height at which the climber is at as he moves from A to C? [1]

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The graph below shows the breathing rate of a mountain climber at different positions on the mountain.



- (b) Explain the climber's breathing rate as he moves from A to C. [2]

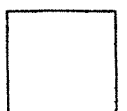
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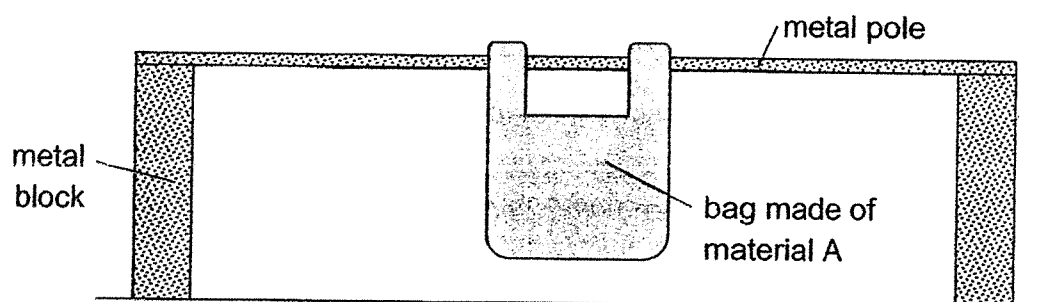
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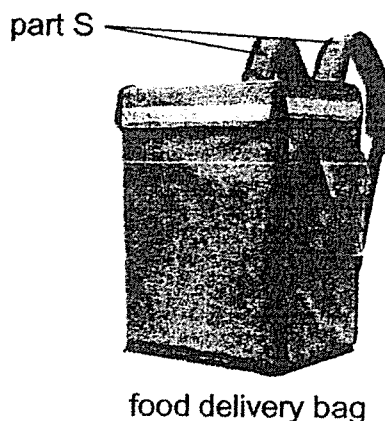
20. Shanti conducted an experiment using the set-up below. She added identical 1-kg metal balls, one at a time into a bag made of material A until it broke.



She repeated the experiment using three other bags made of different materials B, C and D. The results are recorded in the table below.

Material	A	B	C	D
Number of 1-kg metal balls added before the bag broke	5	15	7	10

The diagram below shows a food delivery bag used by delivery riders for carrying 13 kg of food.



Shanti says that material D is the most suitable material for making part S of the food delivery bag. Do you agree with her? Explain your answer. [2]

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21. (a) Explain how shadows are formed.

[1]

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Three performers H, J and K of different heights, were doing a shadow performance on a stage in a dark concert hall. Diagram 1 below shows the top-view of the stage and the performers' position. Diagram 2 shows the shadows as seen by the audience.

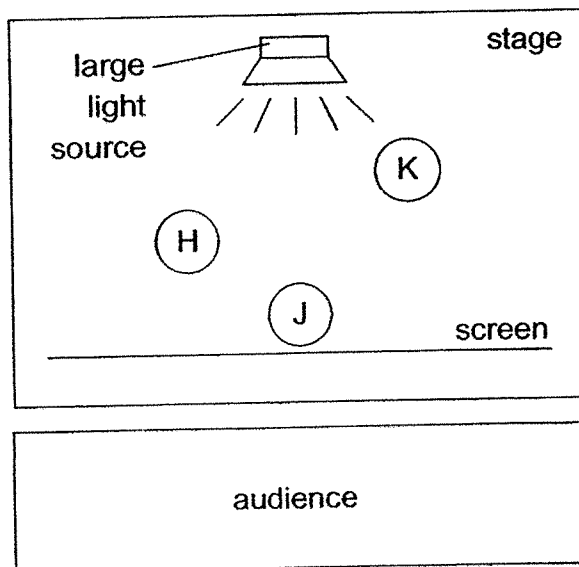


diagram 1

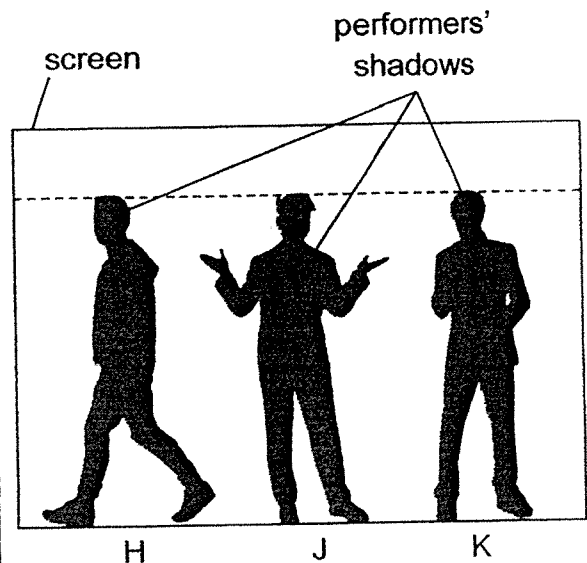


diagram 2

(b) Based on the diagrams above, which performer H, J or K is the shortest in height? Explain your answer.

[2]

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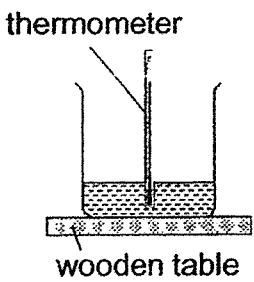
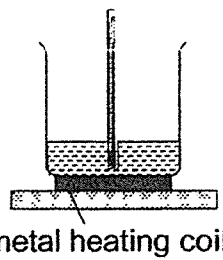
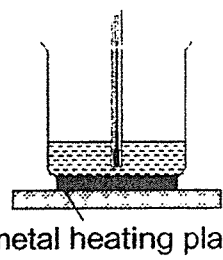
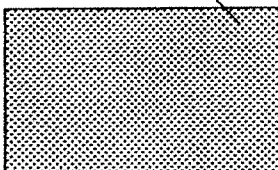
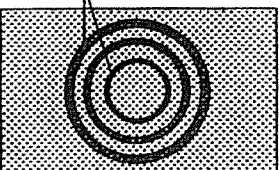
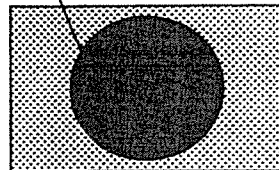
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22. Study the set-ups below. The beaker in each set-up contains an equal amount of water at 30 °C at the start of the experiment. A thermometer is placed in each beaker to measure the temperature of water throughout the experiment.

	set-up A	set-up B	set-up C
side-view			
top-view (without the beakers)			

- (a) What is the purpose of set-up A?

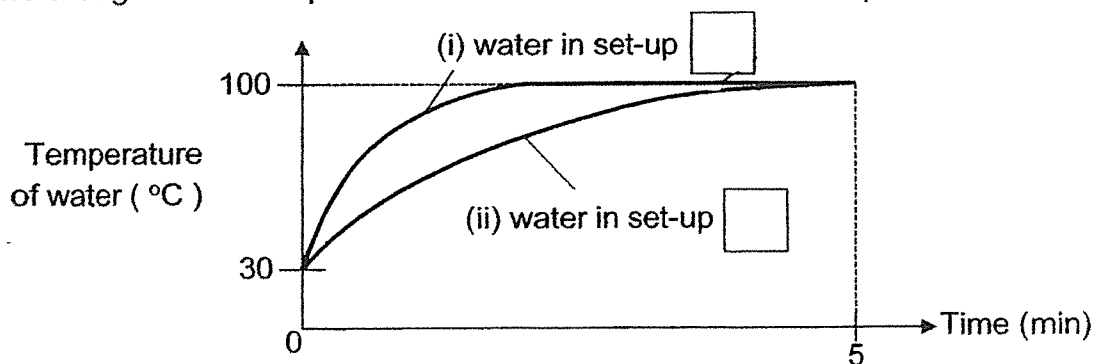
[1]

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Water in set-ups B and C were heated for a period of time. The graph below shows the changes in the temperature in each beaker of water over a period of time.



- (b) Label the graph above with 'B' or 'C' to represent the change in temperature of water over time in set-ups B and C.

[1]

- (c) Explain the observation for (b) (i).

[1]

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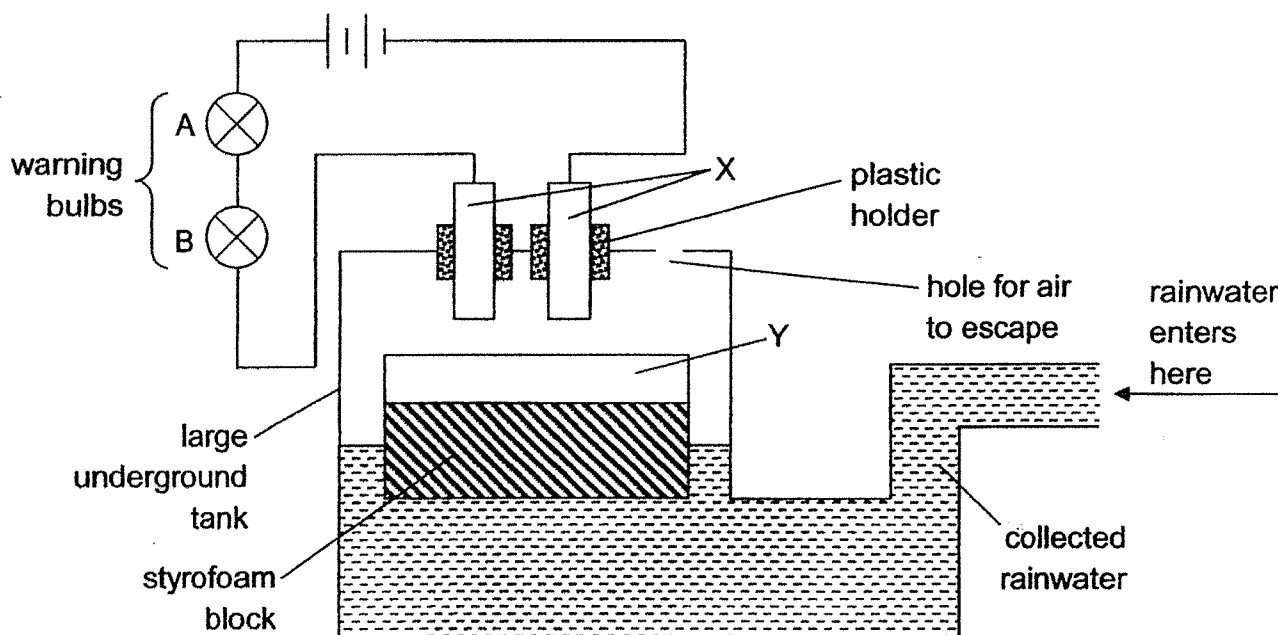
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23. The diagram below shows a simplified circuit of a large underground tank used for collecting rainwater. When the water level reaches a certain level, the warning bulbs light up to indicate that the tank is about to be completely filled.



- (a) Name an example of a suitable material for making parts X and Y. [1]

(i) Part X: \_\_\_\_\_

(ii) Part Y: \_\_\_\_\_

- (b) Explain how bulbs A and B can both be lighted up when more rainwater enters the tank. [2]

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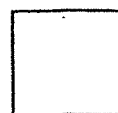


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END OF PAPER





## ANSWER KEY

**YEAR : 2021**  
**LEVEL : PRIMARY 5**  
**SCHOOL : CHIJ ST NICHOLAS GIRLS' SCHOOL**  
**SUBJECT : SCIENCE**  
**TERM : TERM 1 ASSESSMENT 2**

### BOOKLET A

Q1	3	Q2	4	Q3	3	Q4	2	Q5	2
Q6	2	Q7	2	Q8	3	Q9	1	Q10	3
Q11	3	Q12	4	Q13	4	Q14	1	Q15	3
Q16	4	Q17	1	Q18	2				

### BOOKLET B

Q19	a)	The higher the climber is on the mountain, the lower the amount of oxygen.
	b)	As the climber is climbing up the mountain, his body needs more energy so he breathes faster to take in more oxygen and give out more carbon dioxide at a faster rate resulting in a greater rate of respiration.
Q20		No. As Material D can only hold 10 1kg balls and part S needs to be able to hold 13kg of food. So, if the delivery rider has 13kg of food, the bag will break and the delivery driver would not be able to deliver the food.
Q21	a)	Shadows are formed when light travels in a straight line. If blocked by a translucent or opaque object, a shadow will not be formed.
	b)	K. He was the nearest to the light source so his shadow height will be the greatest. Performer K should be the shortest in height so that he can have the same height of the other performers.
Q22	a)	H acts as a control set-up to show that any change in the temperature of water in the beaker is only due to the presence of the <sup>heat</sup> heating plate.
	b)	(i) set-up C
		(ii) set-up B
	c)	The temperature of water in Set-up C is increasing faster than B since the beaker in Set-up C has a greater surface area in contact with the metal heating plate. Thus, C will gain heat faster from the metal plate than the water in B.

Q23	i)	Part X : metal
	ii)	Part Y : steel
	b)	The Styrofoam block will float which causes X and Y to touch. Since X and Y are electrical conductors, the circuit is closed and electricity can flow through the circuit to light up A and B.

2  
END.