Name: _____( )

Class: Primary 5 _____

# CHIJ ST NICHOLAS GIRLS' SCHOOL

## Primary 5
## Termly Assessment

## SCIENCE

## BOOKLET A

## 25 February 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.**
**Answer all questions.**

**This booklet consists of 12 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. The table below shows some observations about four cells W, X, Y and Z. A tick (✓) represents that the characteristic is present in the cell.

| | Characteristics | | | |
|---|---|---|---|---|
| **Cell** | **Nucleus** | **Cell membrane** | **Chloroplast** | **Cell wall** |
| W | ✓ | ✓ | | ✓ |
| X | ✓ | ✓ | ✓ | ✓ |
| Y | | ✓ | | |
| Z | ✓ | ✓ | | |

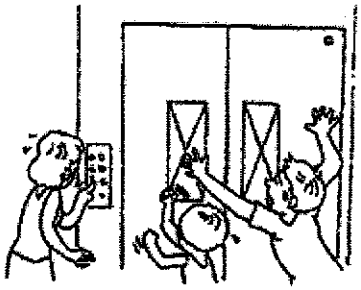
Which of the following statements about cells W, X, Y and Z is **false**?

(1) Cell Z is an animal cell.
(2) Only cell X can make food.
(3) Only cells W, X and Z can reproduce.
(4) Cell W and X do not have regular shapes.

2. Which of the following correctly matches the cell part to its function?

| | Cell Part | Function |
|---|---|---|
| (1) | Chloroplast | Traps light to enable the plant to make food. |
| (2) | Cell wall | Prevents certain substances from entering the cell. |
| (3) | Cytoplasm | Controls all activities of the cell. |
| (4) | Cell membrane | Maintains the shape of the cell |

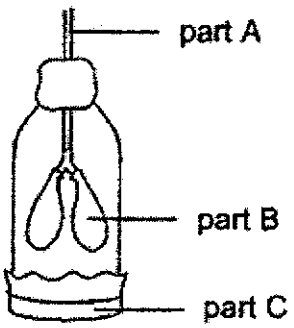
3. Three people were trapped in a lift that had broken down. The air ventilation system in the lift had shut down.



Which of the following best shows the changes in the levels of the different gases present in the lift after one hour?

| | Amount of | | | |
|---|---|---|---|---|
| | **Oxygen** | **Carbon dioxide** | **Water vapour** | **Nitrogen** |
| (1) | increase | decrease | decrease | no change |
| (2) | decrease | Increase | no change | decrease |
| (3) | no change | decrease | increase | increase |
| (4) | decrease | Increase | increase | no change |

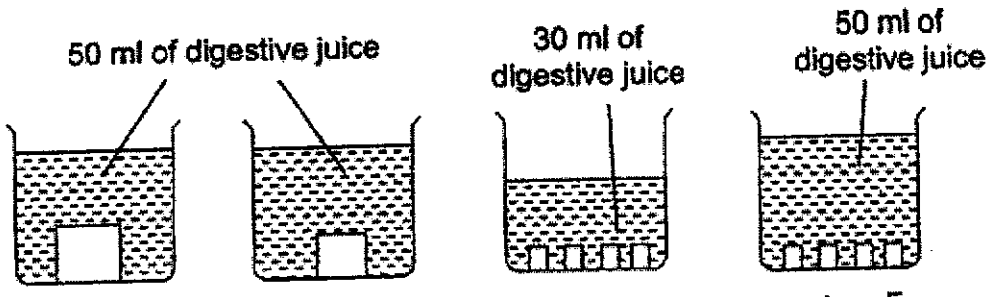
4. Study the model of a human respiratory system shown below.




Which of the following observations is correct?

(1) When part C is pushed upwards, air rushes into part B and inflates it.
(2) When part C is pushed upwards, air rushes into part B and deflates it.
(3) When part C is pulled downwards, part B deflates and air rushes out of part A.
(4) When part C is pulled downwards, part B inflates as air rushes in through part A.

5. Kaelyn set up an experiment involving four set-ups C, D, E and F. Each set-up has a different amount of food and digestive juice.




set-up C with 20 g of food

set-up D with 10 g of food

set-up E with 10 g of food cut into pieces

set-up F with 10 g of food cut into pieces

Which two set-ups should she use if she wanted to find out if the size of the food would affect the rate of digestion?

(1) C and D only
(2) C and F only
(3) D and F only
(4) E and F only

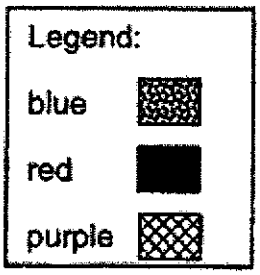
6. Mandy made the following observations about three organisms X, Y and Z. A tick (✓) represents that the characteristic is present in the organism.

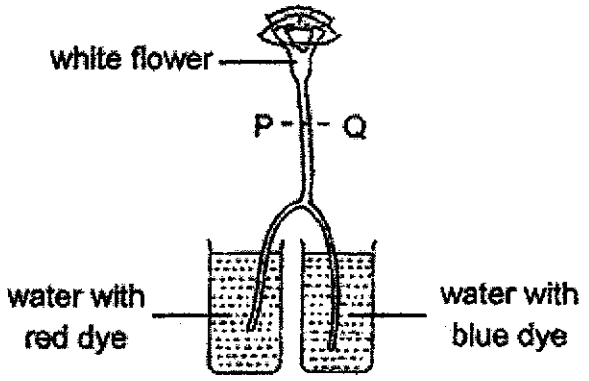
| Observation | Organism | | |
|---|---|---|---|
| | X | Y | Z |
| It has six legs in one of the stages of its life cycle. | ✓ | | |
| Its young resembles the adult. | | ✓ | ✓ |
| There are four stages in its life cycle. | ✓ | | ✓ |
| It lays eggs. | ✓ | ✓ | |

Which of the following is true?

(1) Organism Y could be a frog.
(2) Organism Z could be a bird.
(3) Organism X could be a butterfly.
(4) Organisms X and Y are not insects.

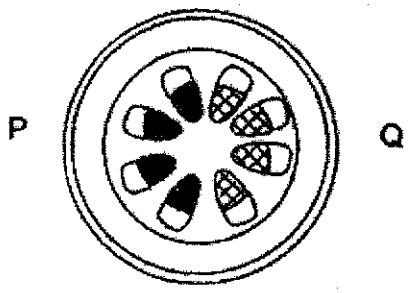
7. The stalk of a white flower was split into two and dipped into two beakers containing different coloured water as shown below.



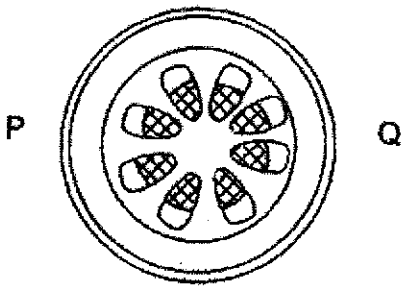




After one day, the flower was cut along PQ as shown in the diagram above. Which of the following shows the cut surface of the flower stalk?

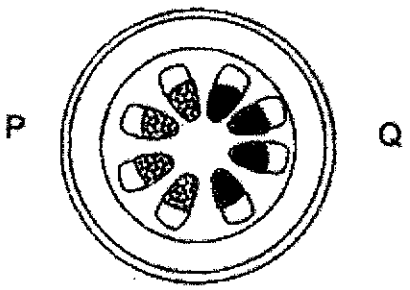
(1)



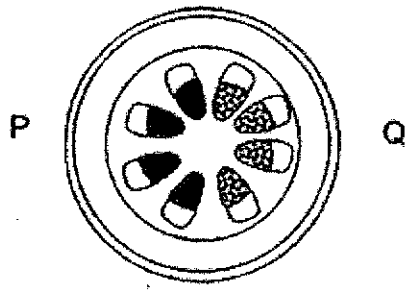

(2)



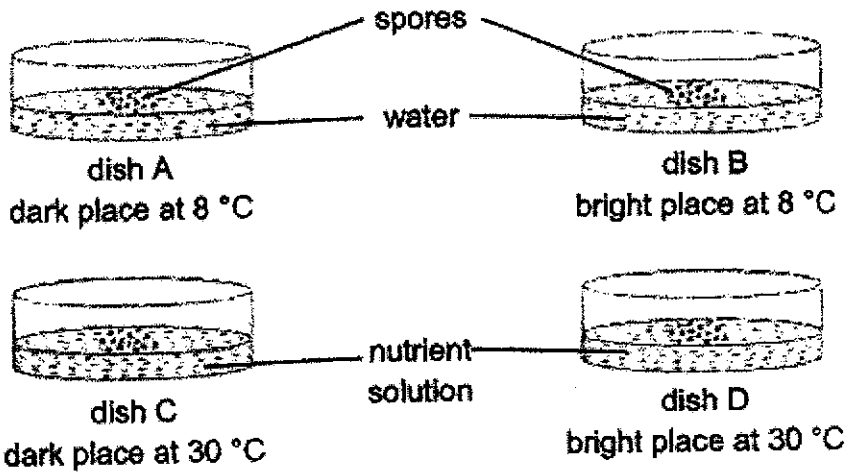

(3)




(4)



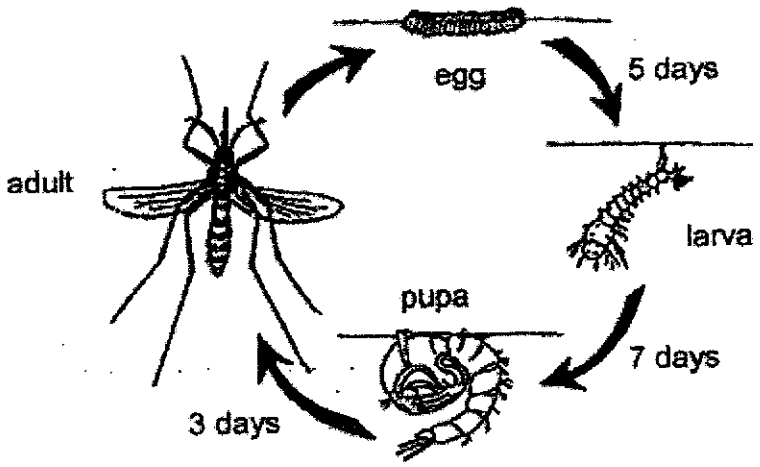
8. Natalie conducted an experiment as shown below. She placed an equal number of identical spores in four dishes A, B, C and D. She then placed them in four different locations as shown in the diagram below.




Which one of the following is not a possible aim of her experiment?

(1) To find out if spores need air to germinate.
(2) To find out if spores need light to germinate.
(3) To find out if spores need warmth to germinate.
(4) To find out if spores need nutrient solution to germinate.

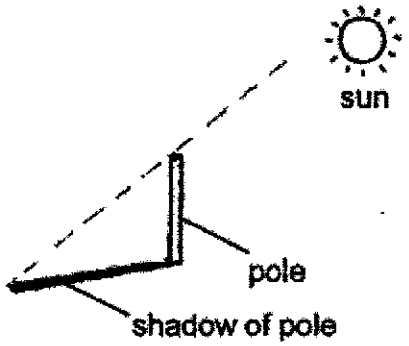
9. The diagram below shows the life cycle of organism A.




Based on the diagram above, which of the following statements is **false**?

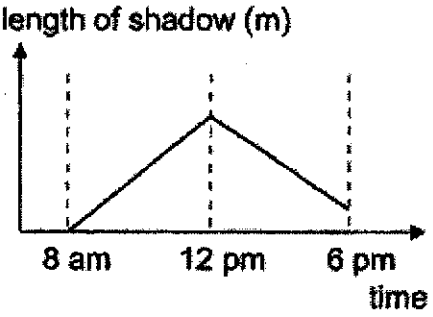
(1) The life cycle of organism A has 4 stages.
(2) The young of organism A does not look like the adult.
(3) It takes about 10 days for the larva to become an adult.
(4) The only stage that organism A does not feed is the pupal stage.

10. Nora placed a pole in an open field and made some observations about the length of its shadow.

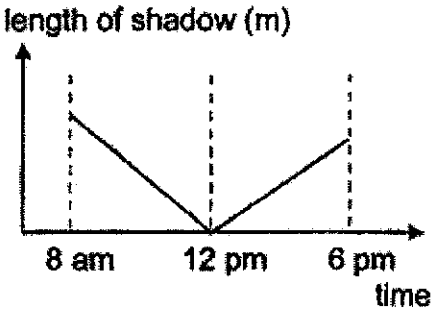



Which one of the following graphs shows what Nora could have observed over a period of time?

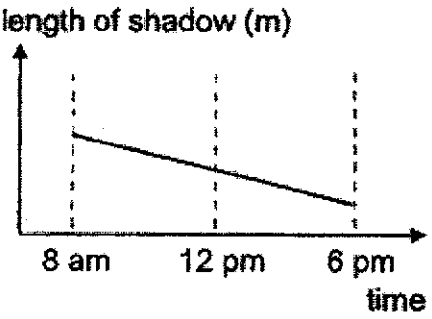
(1)



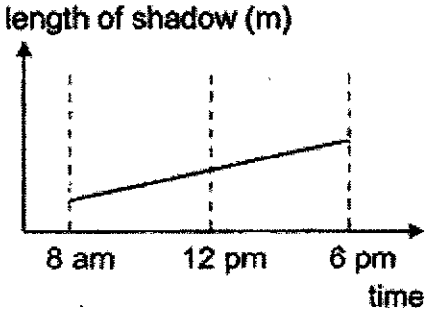

(2)




(3)



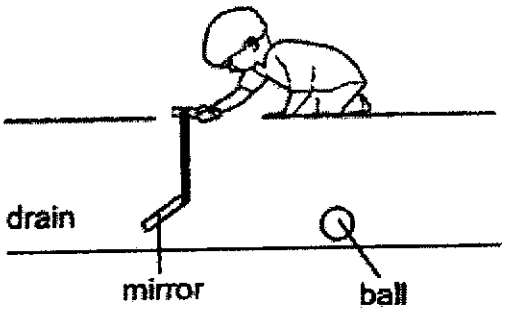

(4)



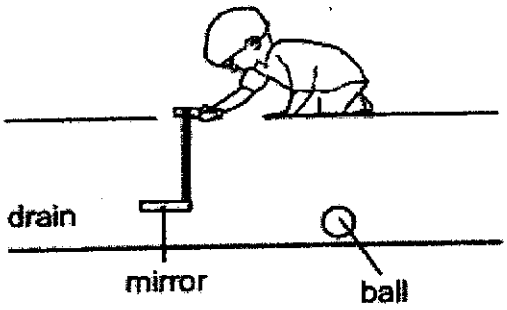
11. Ming accidentally dropped a small ball into a hole of a drain and was unable to see it. His friend suggested that he lowers a mirror into the drain so that he can see where the ball is.

Which of the following diagrams show the correct position of the mirror so that Ming can see the ball in the drain?

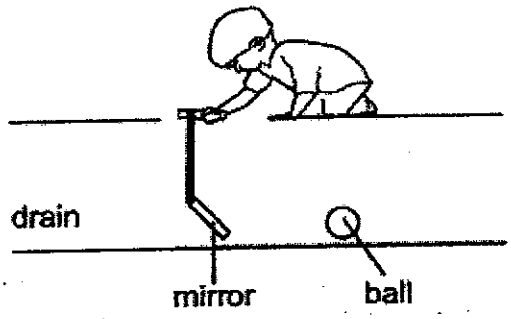
(1)



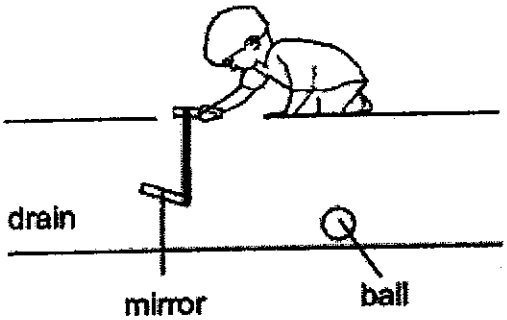

(2)



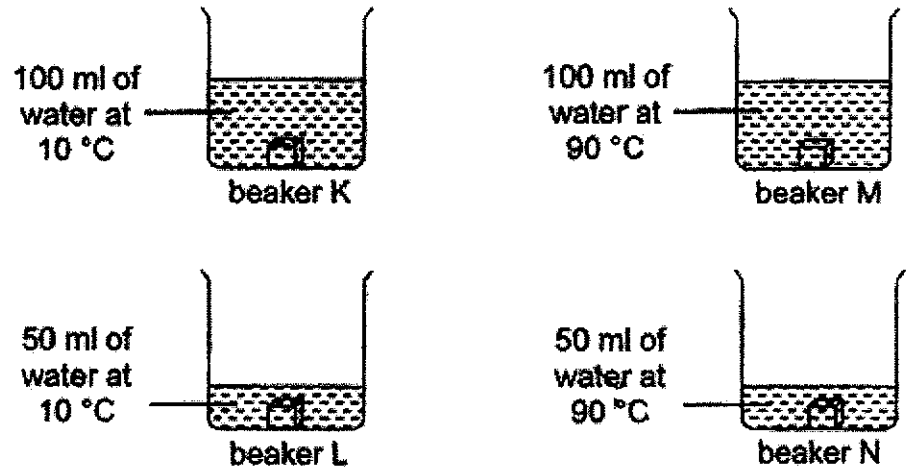

(3)




(4)



12. Ashley set up an experiment as shown below. Four identical beakers K, L, M and N were filled with different amounts of water at different temperatures. She then heated up four identical metal blocks to a temperature of 80 °C and placed each block into each beaker of water as shown below.



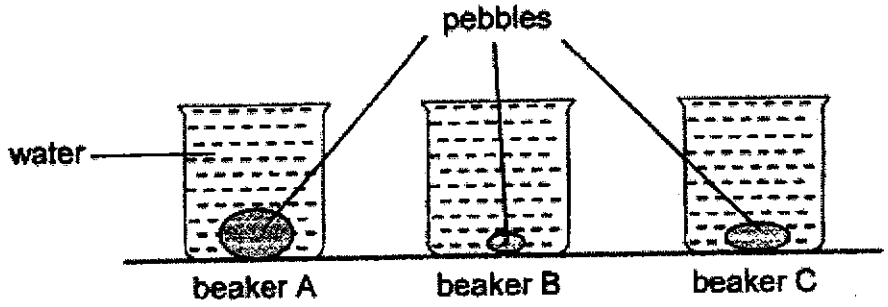

In which beaker would the water show the greatest increase in temperature?

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

13. Wen Ling picked up a metal spoon and it felt cold. Which one of the following statements explains why the metal spoon felt cold to touch?

(1) Wen Ling's hand lost heat to the metal spoon.
(2) Wen Ling's hand lost heat to the surrounding air.
(3) Wen Ling's hand gained heat from the metal spoon.
(4) Wen Ling's hand gained coldness from the metal spoon.

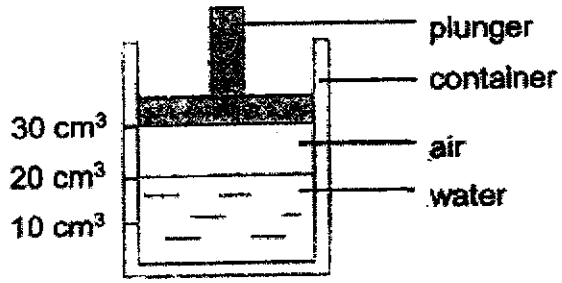
14. The diagram below shows three identical beakers A, B and C. Three pebbles of different sizes were placed into the beakers. The beakers were then filled to the brim with water.




Which of the following shows the most likely amount of water added into each beaker?

| | Amount of water (ml) | | |
|---|---|---|---|
| | A | B | C |
| (1) | 250 | 460 | 320 |
| (2) | 460 | 250 | 320 |
| (3) | 320 | 250 | 460 |
| (4) | 460 | 320 | 250 |

15. Study the diagram below.

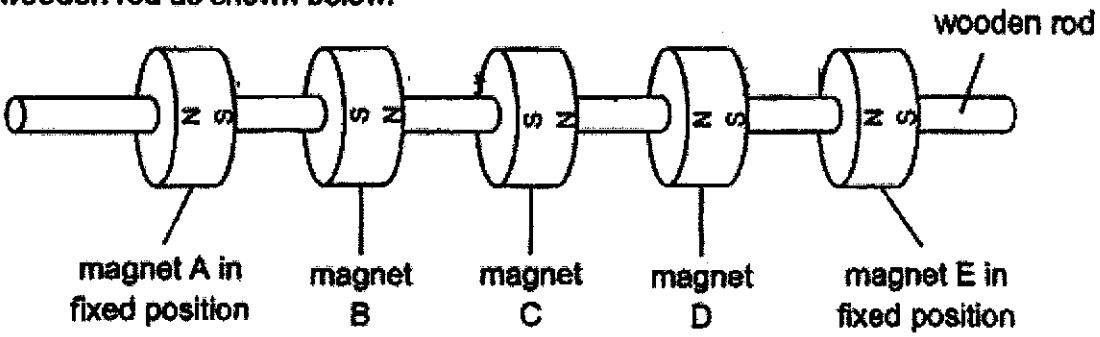



Which of the following observation(s) can be made when the plunger was pushed downwards as far as possible without any air or water escaping?

A The plunger will stop at the 20 $cm^3$ marking.
B The volume of air would be less than 10 $cm^3$.
C The total volume of air and water will be 30 $cm^3$.
D The volume of water would remain the same at 20 $cm^3$.

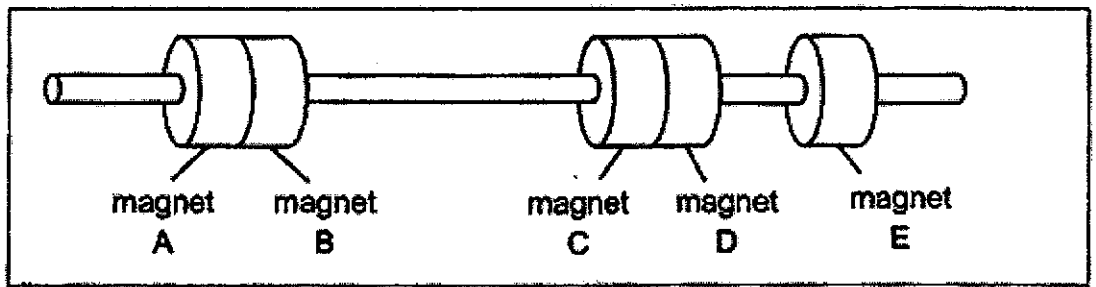
(1) D only
(2) A and C only
(3) B and D only
(4) A, B and D only

16. Karyn placed five identical ring magnets A, B, C, D and E, 3 cm apart from each other, on a wooden rod as shown below.

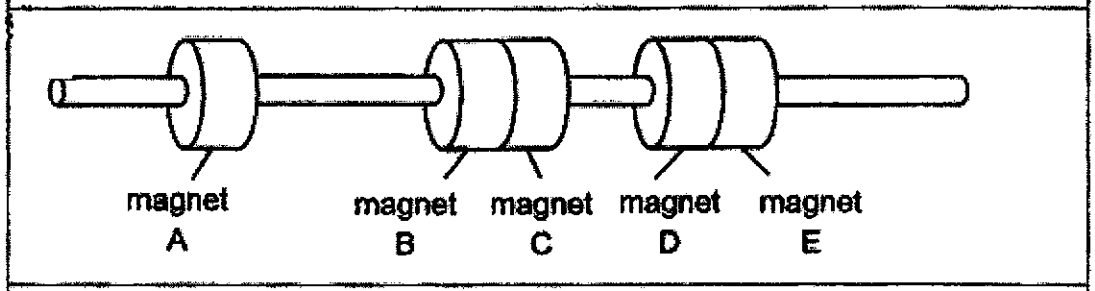



Which one of the following diagrams shows the final positions of the magnets when she releases her grip on magnets B, C and D?

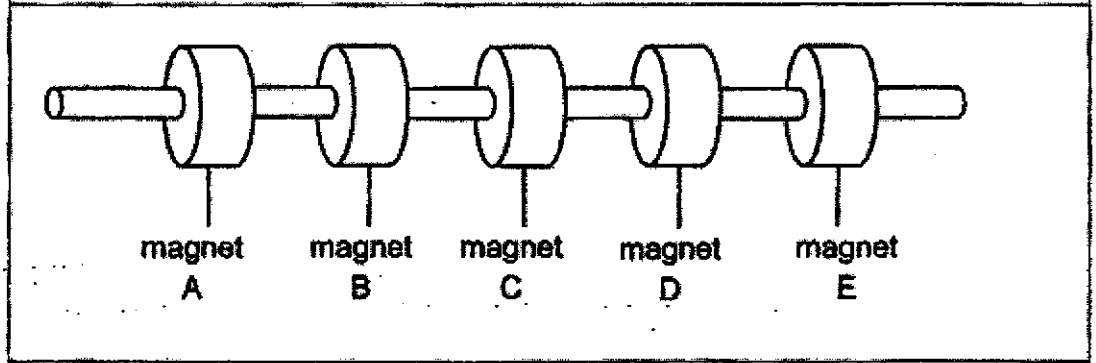
(1)



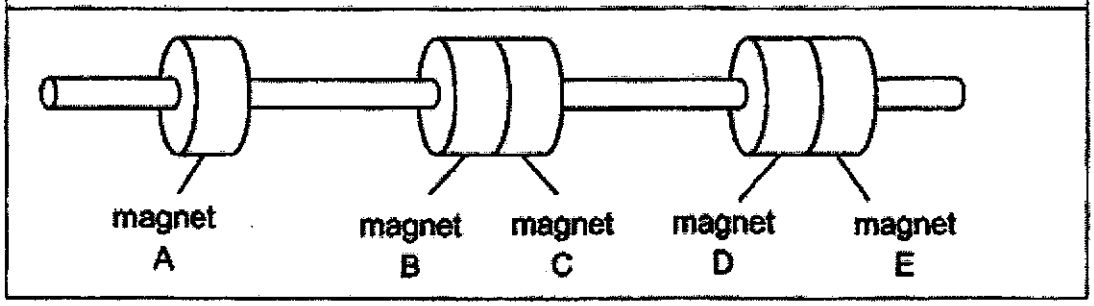

(2)




(3)




(4)



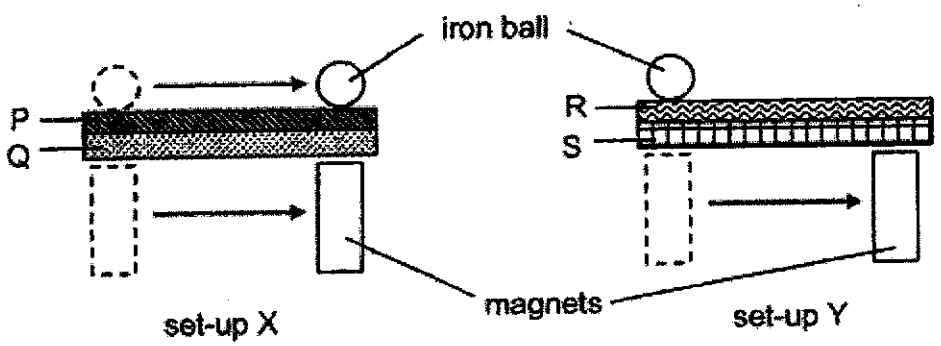
17. Jenny wanted to find out whether the number of turns of the coil of wire around an iron nail would affect the magnetic strength of an electromagnet.

Which of the following variables should she keep the same to ensure a fair test?

A The type of battery
B The size of the iron nail
C The number of batteries used
D The number of turns of the coil of wire
E The number of iron nails the electromagnet can attract

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

18. Murai conducted an experiment as shown below using materials P, Q, R and S.




When he moved the magnet under materials P and Q in set-up X, he observed that the iron ball moved in the same direction as the magnet.

He then repeated his experiment with materials R and S in set-up Y but this time the ball did not move.

Which of the following is definitely true?

(1) Materials P and Q are magnetic materials.
(2) Materials R and S are magnetic materials.
(3) Materials P and Q are non-magnetic materials.
(4) Materials P, Q and R are non-magnetic materials.

**~End of Booklet A~~**

Name : _____ (  )

Class : Primary 5 _____

# CHIJ ST NICHOLAS GIRLS' SCHOOL

## Primary 5
## Termly Assessment

## SCIENCE

### BOOKLET B

### 25 February 2021

| | |
|---|---|
| Booklet A | 36 |
| Booklet B | 14 |
| Total | 50 |

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

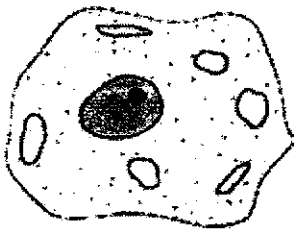
**5 questions**
**14 marks**

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

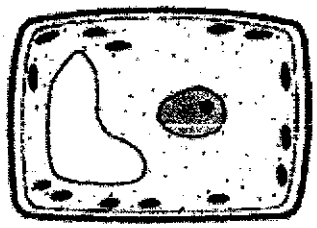
**This paper consists of 6 printed pages.**

**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. Look at the diagram below.



animal cell



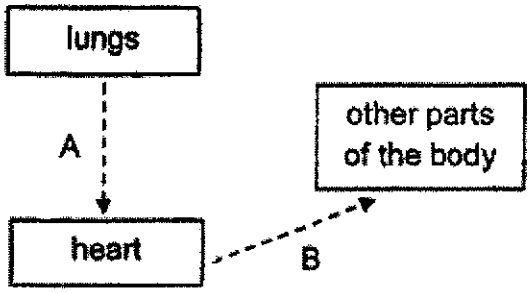
plant cell

(a) State a difference between the function of the cell wall and that of the cell membrane. [1]

(b) Plants can make their own food while animals cannot. Explain why this is so in terms of their cell structures. [1]

(c) Peter said that the plant cell shown above can be found in the roots of a plant. Is Peter correct? Explain why. [1]

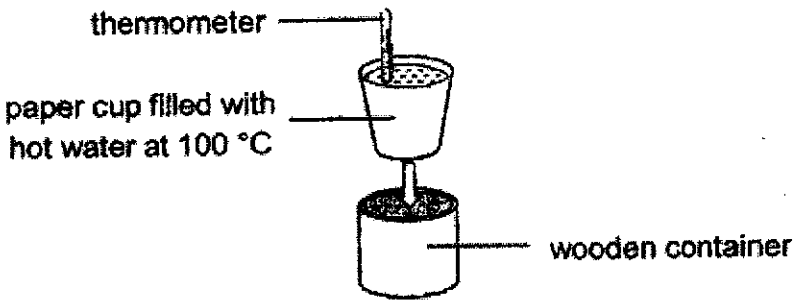
20. The diagram below shows how blood flows from the lungs to the other parts of the body.



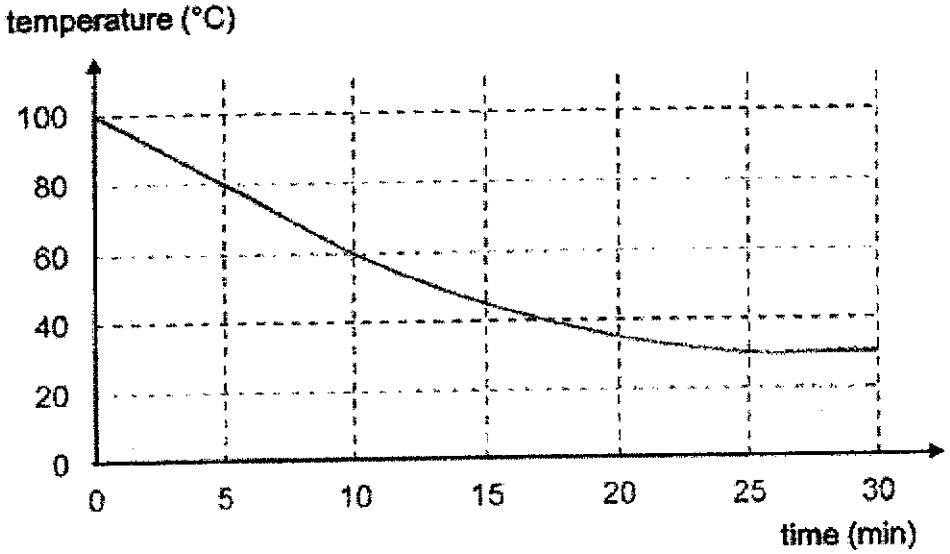

(a) Draw two more arrows (⟶) in the diagram above to show the complete flow of blood around the body. [1]

(b) When we exercise, blood flows faster at A and B. Explain why this is so. [2]

21. Coby wanted to find out if a wooden container can help to keep hot liquids warm for a longer time. He placed a paper cup filled with hot water at 100 °C into the wooden container as shown below.



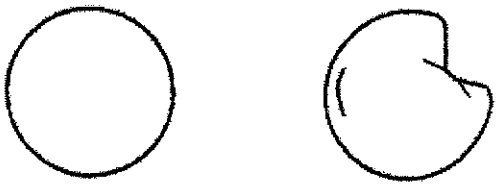

The graph below shows the changes in the temperature of the hot water over a period of 30 minutes.




(a) Explain why the wooden container is able to keep the hot water warm for a longer period of time. [2]

(b) State the temperature of the room that Coby was in. [1]

22. The diagram below shows how a plastic ball looks like before and after Keith squeezed the ball very hard. He noted that there was no holes made in the ball.



before after

(a) Complete the table below with the words '**increased**', '**decreased**' or '**remained unchanged**' to show how the mass and volume of the air in the ball has changed after he had squeezed the ball. Explain your answer. [2]

| | | **increased / decreased / remained unchanged** | **Explanation** |
|---|---|---|---|
| (i) | Mass of the air in the ball | | |
| (ii) | Volume of the air in the ball | | |

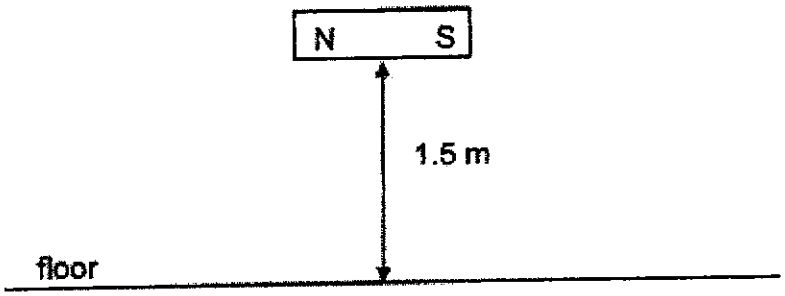
(b) Suggest one way in which Keith can make the plastic ball return to its original shape. [1]

_____

_____

23. Dominic conducted an experiment using a magnet as shown below.


He placed the magnet into a dish of iron paper clips and recorded how many paper clips it could attract. He then dropped the magnet once on the floor from a height of 1.5 m before putting the same magnet into the dish of paper clips to see how many paper clips it could attract.




He repeated his experiment several times, each time increasing the number of times the magnet was dropped from a height of 1.5 m. The table below shows his results.

| Number of times magnet was dropped from 1.5 m | Number of iron paper clips attracted |
|---|---|
| 0 | 25 |
| 1 | 23 |
| 3 | 19 |
| 5 | 15 |
| 7 | 11 |

(a) What is the aim of Dominic's experiment? [1]

(b) Based on the table, what is the relationship between the number of times the magnet was dropped and its magnetic strength? [1]

**~ End of Booklet B ~**

SCHOOL : CHIJ ST NICHOLAS GIRLS' PRIMARY SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : 2021 TERMLY ASSESSMENT

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## SECTION A

| Q 1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 1 | 4 | 4 | 3 | 3 | 4 | 1 | 4 | 2 |
| Q 11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | | |
| 3 | 2 | 1 | 1 | 3 | 4 | 3 | 3 | | |

## SECTION B

**Q19)**

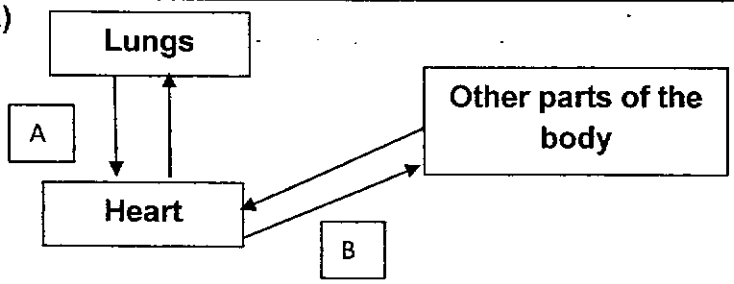
a) Cell wall allows all substances to pass through but cell membrane allows only some substances to pass through.

b) A plant's leaf cell contains chloroplasts, which contains chlorophyll to trap light and to make food while an animal cell does not contain chloroplast.

c) Peter is wrong. The plant cell shown above contains chloroplast which contains chlorophyll to make food. So it is found on the leaves and not the roots as roots do not make food.

**Q20)**

a)




b) When we exercise, the cells in our body need more energy. So the heart pumps faster to transport more oxygen and digested food to the cells in our body for a higher rate of respiration.

**Q21)**

a) Wood is a poor conductor of heat so the water in the cup will not lose heat to the surroundings quickly.

b) 30°C

**Q22)**

a)

| | | Increased/ decreased / remain unchanged | Explanation |
|---|---|---|---|
| (i) | Mass of the air in the ball | Remain unchanged | The air in the ball did not escape |
| (ii) | Volume of the air in the ball | Decrease | Air is compressed |

b) Put the ball in hot water.

**Q23)**

a) It is to find out whether the number of times the magnet was dropped affects the number of iron paper clips attracted.

b) The greater the number of times the magnet was dropped, the weaker its magnetic strength.