Rosyth School
Weighted Assessment (Term Two) 2023
SCIENCE
Primary 5

Name: _____ Total Marks: /28

Class: Pr 5 _____ Register No. _____

Date: 10 May 2023

Total Time for Booklet A and B: 1h

Booklet A

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.

* This booklet consists of **12** printed pages (including this cover page).

For each question from 1 to 14, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

[28 Marks]

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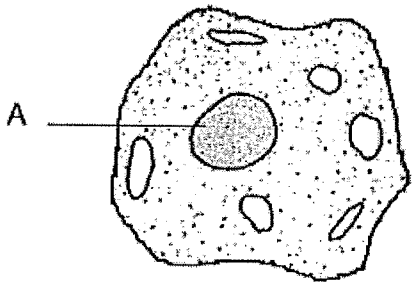
1 The diagram shows an animal cell.



What is part A?

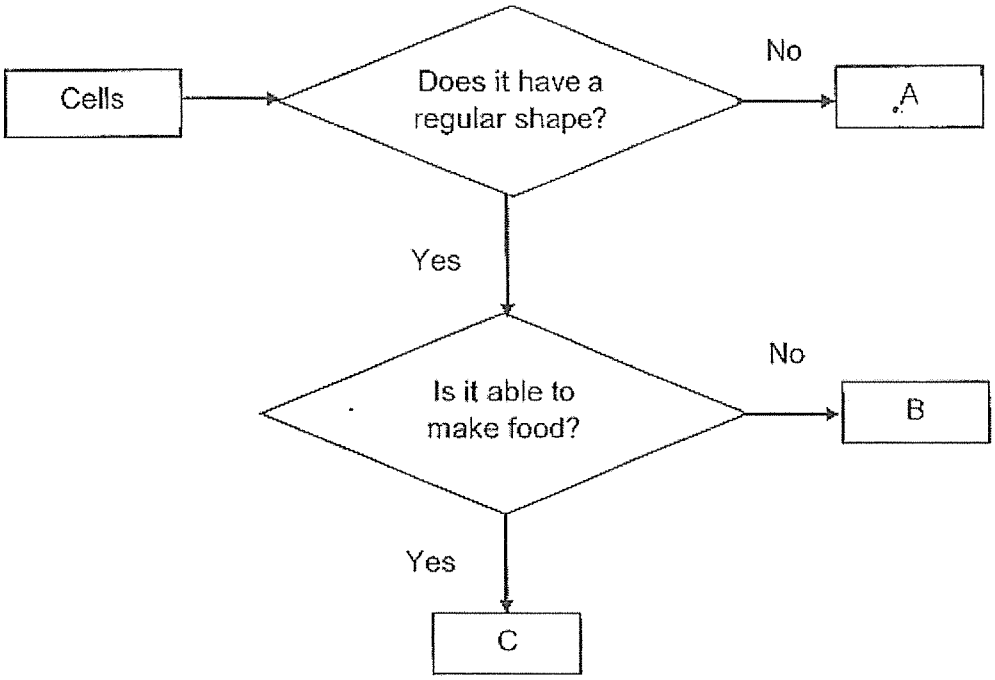
(1) cell wall

(2) nucleus

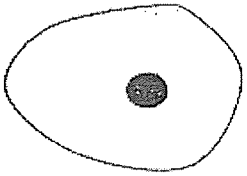
(3) chloroplast

(4) cell membrane

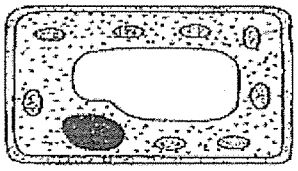
2 Study the flowchart below.



Which one of the following identifies Cells X and Y correctly?



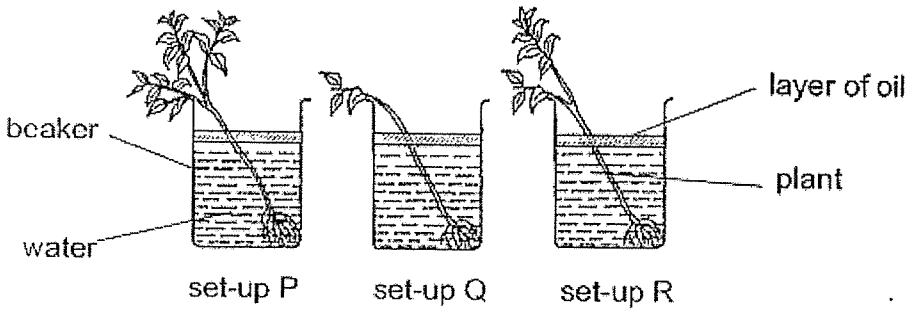
Cell X



Cell Y

	Cell X	Cell Y
(1)	A	C
(2)	B	A
(3)	A	B
(4)	B	C

3 Jackson placed three plants in identical beakers next to a window as shown in the diagram below.



At the end of five days, he recorded the results of his experiment in the table below.

Set-up	P	Q	R
Volume of water at the start (ml)	500	500	500
Volume of water at the end (ml)	470	?	485

Which one of the following shows the volume of water left in set-up Q?

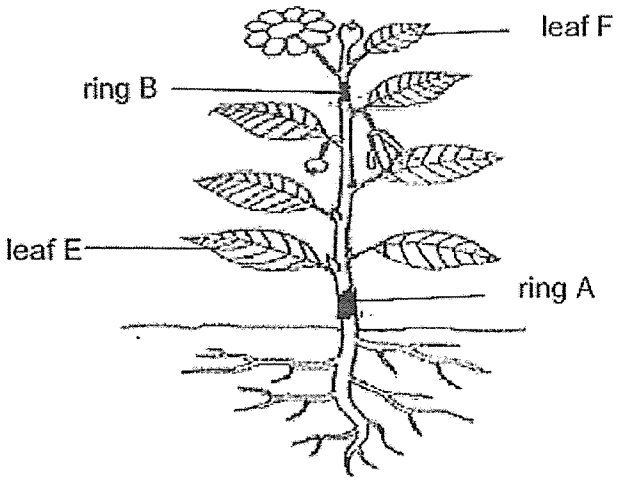
(1) 450

(2) 465

(3) 475

(4) 490

4 Sally removed two outer rings, A and B, from the stem of a plant.



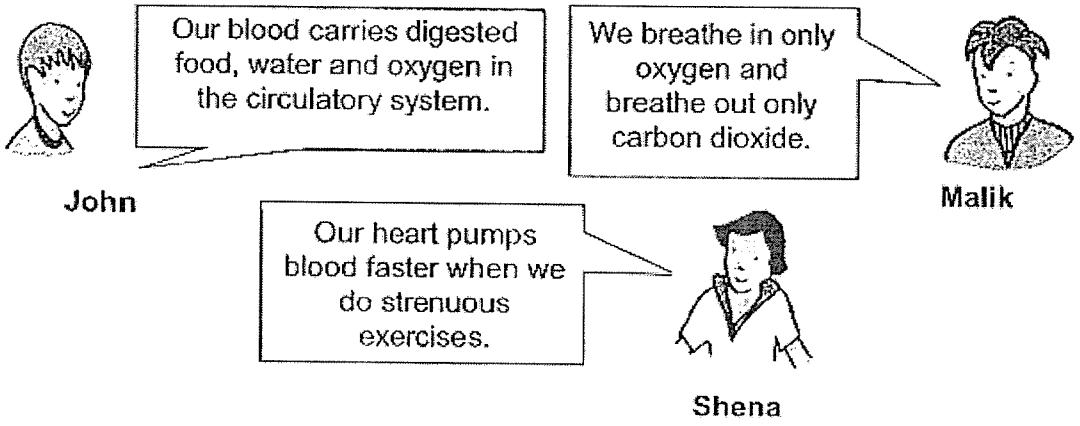
She recorded her observations of leaves E and F after a week.

Leaf	Observation
E	green and healthy
F	brown and wilted

Which of the following correctly shows the tubes that were removed at A and B?

	A	B
(1)	food carrying tubes only	food-carrying tubes only
(2)	food-carrying tubes only	food and water-carrying tubes
(3)	water-carrying tubes only	food and water-carrying tubes
(4)	water-carrying tubes only	food-carrying tubes only

5 The following students were having a discussion about the organ systems.



Who has/have made the correct statement(s)?

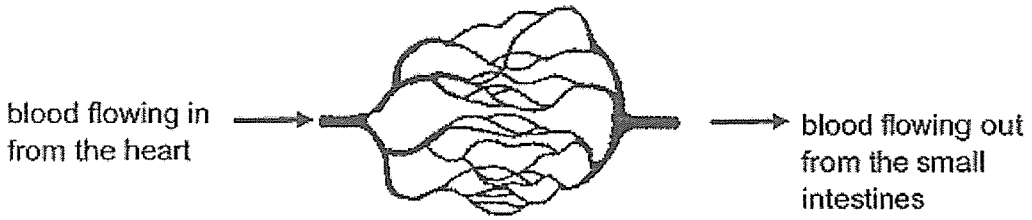
(1) John only

(2) John and Shena only

(3) Malik and Shena only

(4) John, Malik and Shena

6 Study the diagram below.

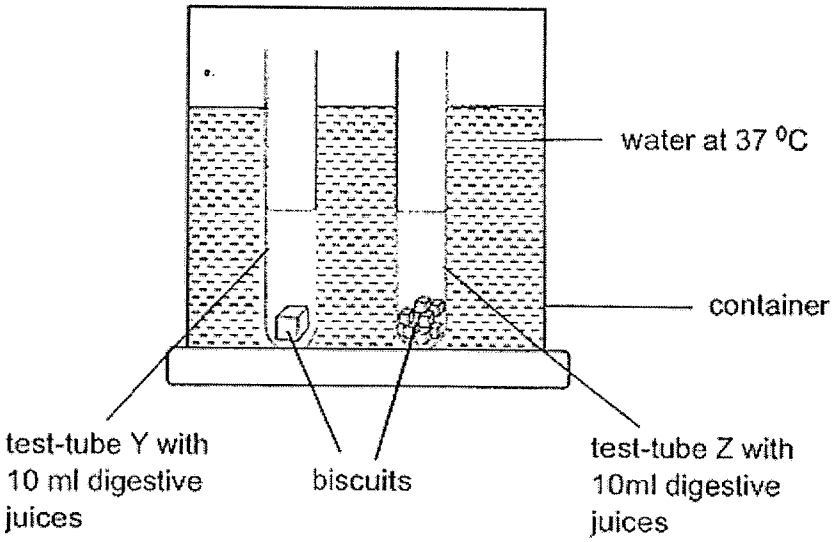


blood vessels in the small intestines

Which one of the following correctly states the change in the amount of substances carried by the blood as it flows through the small intestine?

	Digested food	Oxygen	Carbon dioxide
(1)	decreases	decreases	increases
(2)	increases	increases	decreases
(3)	deceases	increases	decreases
(4)	increases	decreases	increases

7 John conducted the following experiment with the set-up shown below.



Test-tube Y contained one biscuit cube. Test-tube Z contained an identical biscuit cube that had been cut into smaller pieceses.

After two hours, he observed that the biscuit cubes in test-tube Z had disappeared completely while the biscuit cube in test-tube Y had become slightly smaller.

Based on the experiment, which factor affects the rate of digestion?

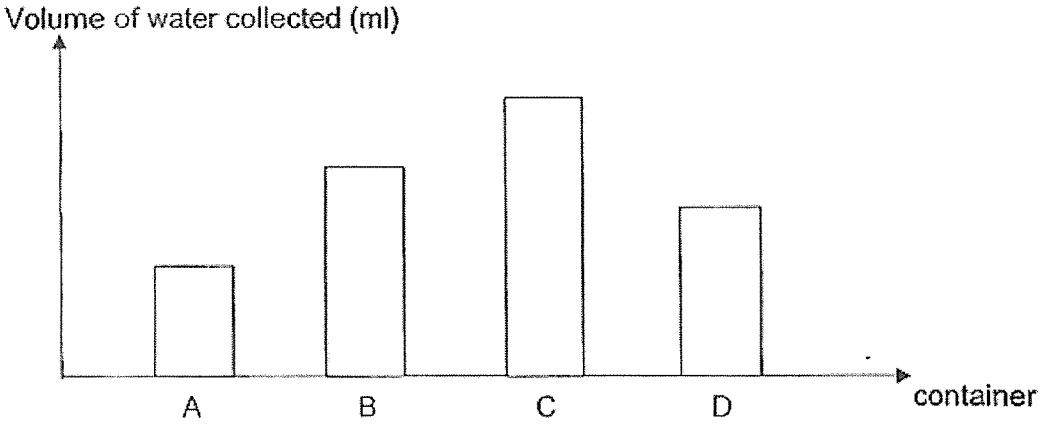
(1) mass of food

(2) temperature of water

(3) volume of digestive juice

(4) exposed surface area of food

8 Adam filled four containers, A, B, C and D, with equal amounts of ice cubes. The containers were similar in size but were made of different materials. The graph below shows the volume of water collected in the containers after half an hour.



Based on the graph above, which container should Adam use to keep his drinks cold for the longest period of time?

(1) A

(2) B

(3) C

(4) D

9 Which one of the following does not have mass?

(1) air

(2) light

(3) cloud

(4) bacteria

10 The table below shows the properties of X, Y and Z.

	X	Y	Z
Has mass	Yes	No	Yes
Can be seen	Yes	Yes	Yes
Has a definite shape	No	No	Yes

Which of the following inference is definitely correct?

(1) X is a gas.

(2) Y is a matter.

(3) Z is a solid.

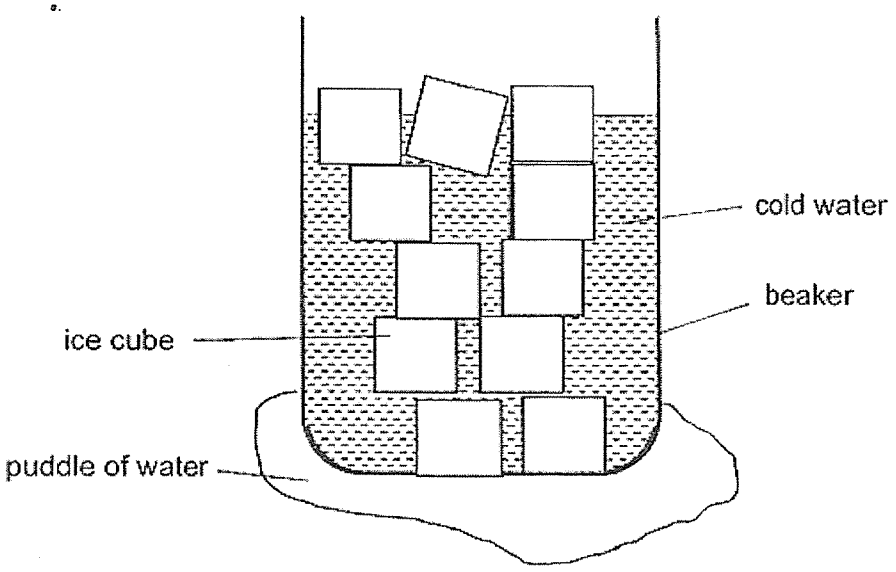
(4) X and Z are liquids.

11 Study the diagram below.

Which one of the following correctly identifies the processes, A, B, C and D, shown above?

	A	B	C	D
(1)	melting	evaporation	condensation	melting
(2)	melting	boiling	condensation	freezing
(3)	freezing	boiling	evaporation	melting
(4)	freezing	condensation	evaporation	freezing

12 Alice poured cold water into a beaker and added some ice cubes. After some time, she noticed that there was a small puddle of water at the base of the beaker as shown below.



Which of the following was the source of the puddle of water?

(1) ice cubes

(2) cold water

(3) oxygen in the air

(4) water vapour in the air

13 The table below shows the melting points and boiling points of substances P, Q, R and S.

Substance	Melting Point (°C)	Boiling Point (°C)
P	50	90
Q	20	120
R	5	70
S	10	55

At which temperature will only two of the above substances be in its liquid state?

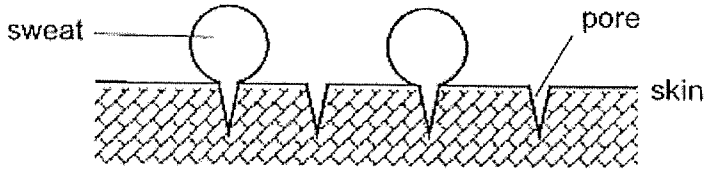
(1) 40 °C

(2) 75 °C

(3) 100 °C

(4) 125 °C

14 During an exercise, sweat comes out from the pores (tiny openings) found in the human skin as shown below.



Which of the following explains how this helps the body keep cool?

(1) The sweat loses heat to the air.

(2) The air gains heat from the sweat.

(3) The body gains heat from the sweat.

(4) The sweat gains heat from the body.

(Go to Booklet B)

Rosyth School
Weighted Assessment (Term Two) 2023
SCIENCE
Primary 5

Name: _____ Total Marks: / 50

Class: Pr 5 _____ Register No. _____

Date: 10 May 2023 Parent's Signature: _____

Duration: Total time for Booklets A and B: 1 h

Booklet B

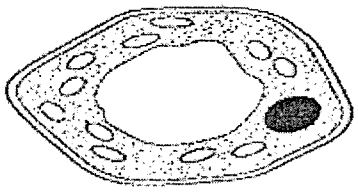
Instructions to Pupils:
1. Please do not turn this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

	Maximum	Marks Obtained
Booklet A	**28 marks**	
Booklet B	**22 marks**	
Total	**50 marks**	

* This booklet consists of 8 printed pages (including this cover page).

For questions 15 to 20, write your answers in this booklet. (22 marks)

15 Shi Hong wanted to find out if the cell sample he examined under the microscope was taken from a part of plant that was underground.

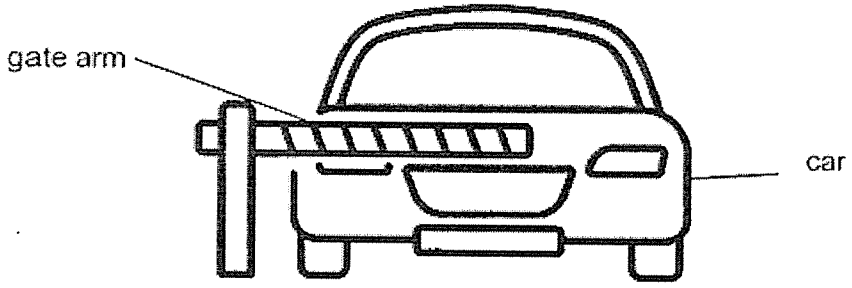


cell sample

After examining the cell closely, as shown above, he concluded that the cell sample was indeed taken from the underground part of the plant.

(a) Do you agree with Shi Hong? Explain your answer. [1]

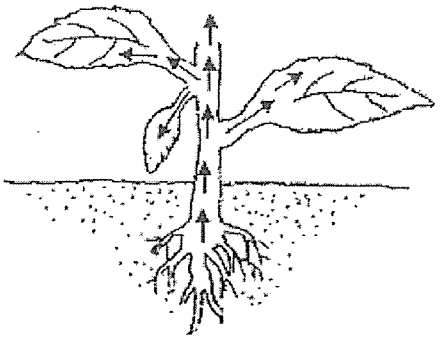
The diagram below shows a gate arm in a building. The car must have a season ticket for the gate arm to open.



(b) Which part of the plant cell has the same function as the gate arm shown above? Explain your answer.

[2]

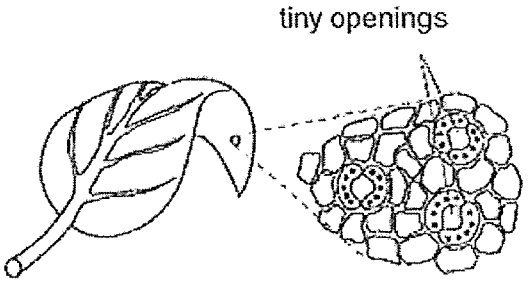
16 Cindy drew arrows to show the movement of food in a plant.



(a) Did Cindy draw the arrows correctly to show the movement of food in the plant? Explain your answer. [2]

(b) The plant shown above has many roots. How does having many roots benefit the plant? [1]

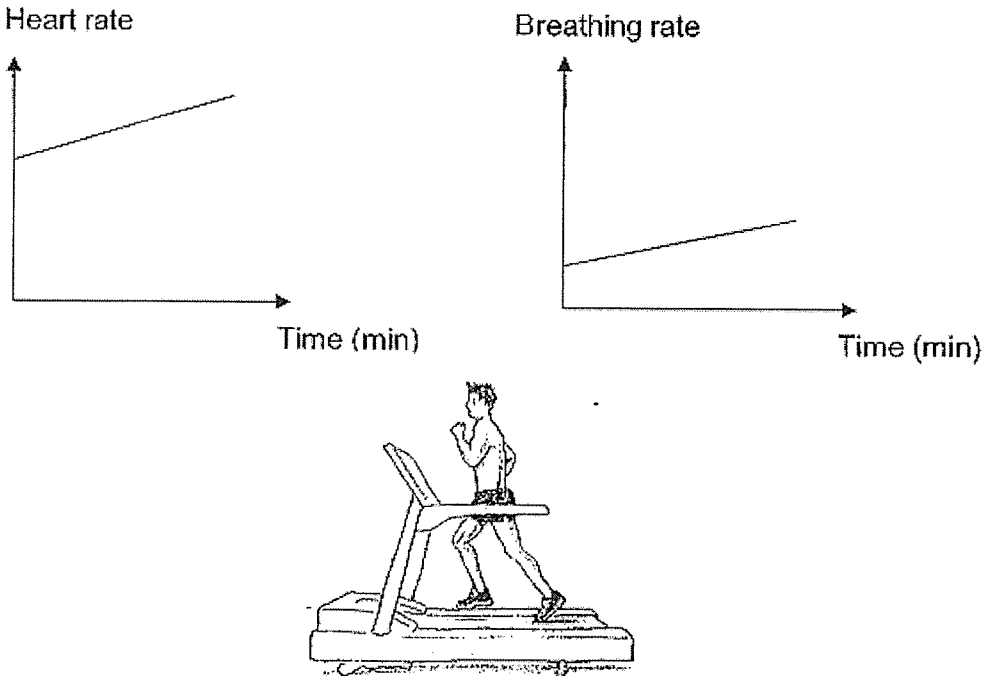
(c) Study the diagram below carefully.



The tiny openings on the leaf allow excess water to be lost from the plant.

State another function of the tiny openings. [1]

17 The graphs below show Johan's heart rate and breathing rate while he was running on a treadmill.

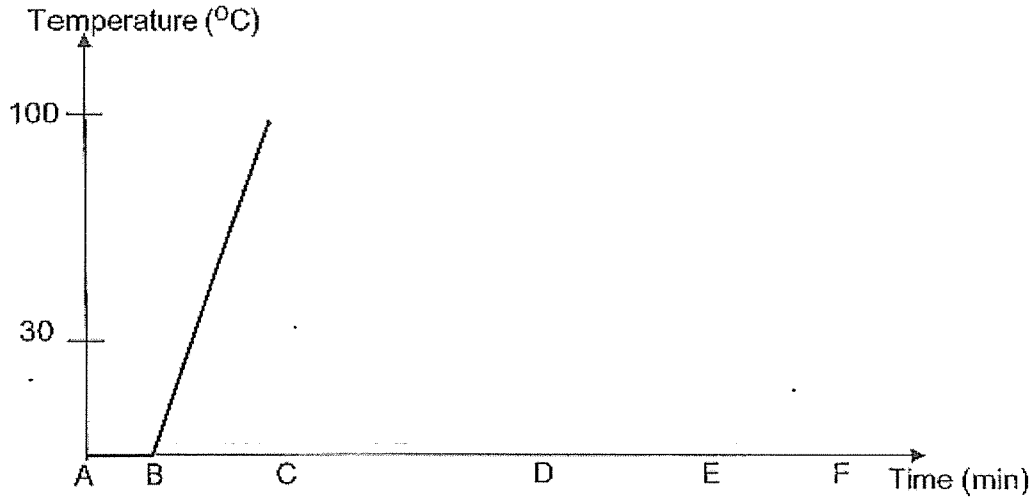


(a) Based on the graphs above, what is the relationship between his heart rate and the breathing? [1]

(b) Describe how oxygen in the environment reaches Johan's legs. [2]

(c) Identify one substance that is transported back to the heart to return to the environment. [1]

18 Andy heated a beaker of ice from A to D and after that he stopped heating it. He recorded the changes in temperature in the graph below.



(a) Define temperature. [1]

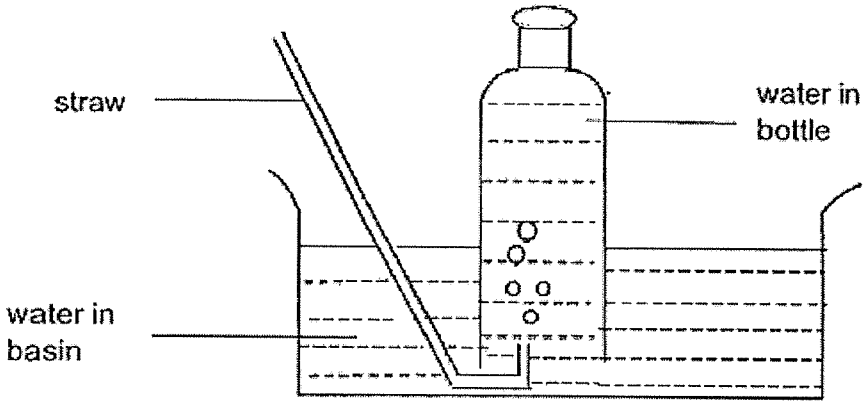
(b) What happened from A to B? [1]

(c) State the state of matter represented by Line BC. [1]

Line BC: _____

(d) The room temperature is 30°C. The water in the beaker is not gaining or losing heat from E to F. Draw two lines to show the changes in temperature from D to E and then E to F in the graph above. [2]

19 Amir took a breath and then blew as much as possible into the straw using the set-up below.



He recorded the changes in the height of water level in the basin as shown below.

Height of water in the basin of water at the beginning of the experiment (cm)	Height of water in the basin of water after Amir blew into the straw (cm)
10	12.4

(a) Why was there an increase in the height of water in the basin of water after Amir blew into the straw? [1]

Question 19 continues on page 7

(b) What are the gases present in the air that Amir blew into the straw? Put a tick (√) in the correct boxes. [1]

Gas	Tick
Oxygen	
Nitrogen	
Carbon Dioxide	
Water vapour	

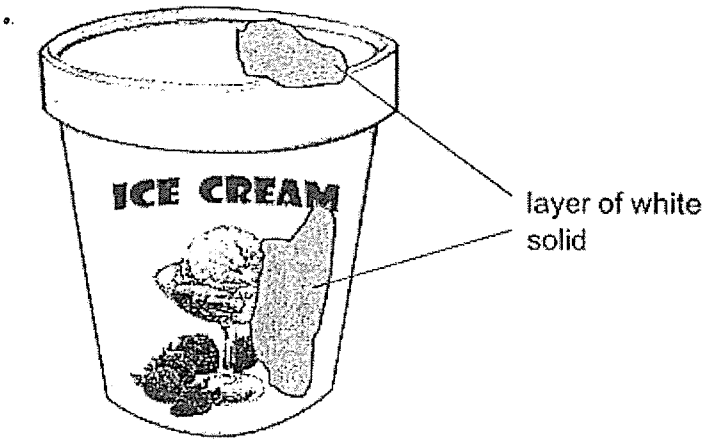
The set-up that Amir used can measure the lung capacity of a person. Amir's brother did the same test as Amir. The result is as shown.

Height of water in the basin of water at the beginning of the experiment (cm)	Height of water in the basin of water after Amir's brother blew into the straw (cm)
10	11.5

(c) Fill in the blank. [1]

Based on the result, Amir's lung capacity is _____ than his brother's.

20 Alan took a container of ice cream from his freezer and placed it onto a table. After a short while, he noticed that a thin layer of white solid had formed on the surface of the ice cream container.



(a) Explain how the white solid formed. [2]

(b) The white solid cannot be seen after a while. Explain why. [1]

End of paper

SCHOOL : ROSYTH SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : 2023 WA2

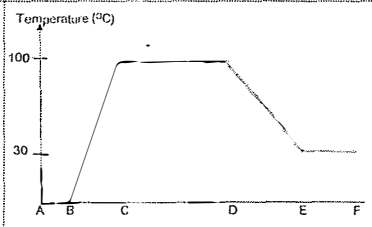
SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	4	2	2	4	4	1	2	3

Q 11	Q12	Q13	Q14
2	4	2	4

SECTION B

Q15a)	No, I do not as in the cell sample, there are chloroplasts which need light to make food.
Q15b)	The cell membrane. It only allows some substances to pass through, just like the gate arm, which only allows those cars with season tickets to pass through while cars without the season tickets are not able to get through.
Q16a)	Cindy did not draw the arrows correctly. The arrows should start in the leaves because food is produced in the leaves and transported to the rest of the plant.
Q16b)	It can absorb more water and mineral salts.
Q16c)	The tiny openings allows for gaseous exchange of the plant with its surroundings.
Q17a)	As the heart rate increases, the breathing rate increases.
Q17b)	Air enters through Johan's nose and into the windpipe before reaching the lungs. In the lungs, oxygen enters Johan's blood stream through air sacs in the lungs. Blood in the circulatory system carries oxygen-rich blood to all parts of Johan's body, including his legs.
Q17c)	Carbon dioxide
Q18a)	Temperature if the measurement of how hot or cold something is.
Q18b)	Melting
Q18c)	Liquid

Q18d)	
Q19a)	After Amir blew into the straw, air from his lungs was transferred into the bottle. Air has volume and occupies space in the bottle, so water in the bottle will be displaced out into the basin, increasing the height of water in the basin.
Q19b)	Tick all
Q19c)	Larger
Q20a)	The warmer water vapour from the surrounding air came into contact with the cooler surface of the ice cream container, causing the water vapour to lose heat and condense into water droplets. As the temperature difference between water droplets formed and container is still very significant, water droplets will continue to lose heat and freeze to form layer of white solid ice.
Q20b)	The white solid gained heat from the surrounding air and melted.