



**Rosyth School**  
**End-of-Year Examination 2025**  
**SCIENCE**  
**Primary 5**

Name: \_\_\_\_\_ (    ) Class: 5

Date: 30 October 2025

Total Time for Booklets A & B: 1 hour 45 minutes

This booklet consists of 18 printed pages (including this cover page).

## Booklet A

**Instructions to Candidates:**

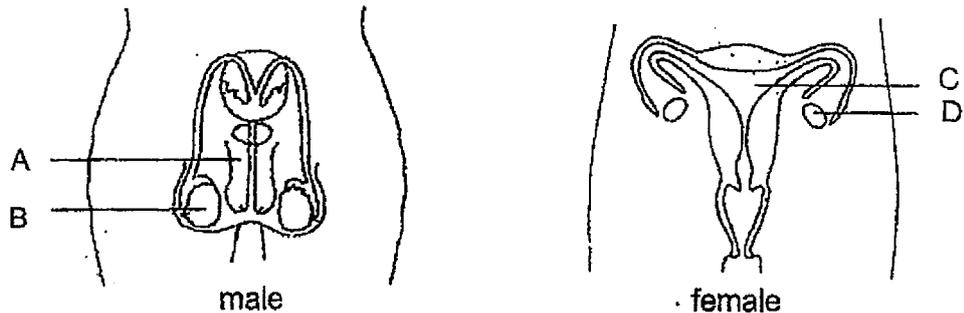
1. Do not turn over the booklet until you are told to do so.
2. Follow all instructions carefully.



**Booklet A [30 x 2 marks]**

For each question from 1 to 30, 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 (OAS).

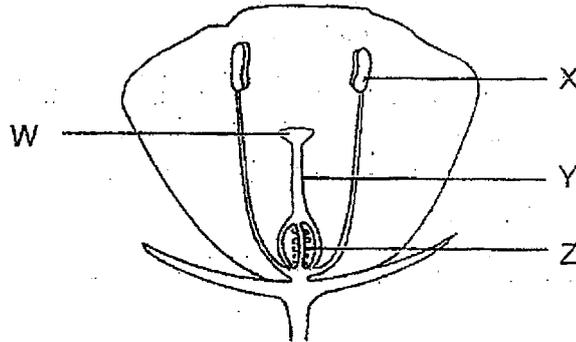
1. Which characteristic can be used to tell birds and mammals apart?
  - (1) number of legs
  - (2) presence of wings
  - (3) type of body covering
  - (4) method of reproduction
  
2. Which statement describes the similarity between the stomach and the large intestine?
  - (1) Both produce digestive juices.
  - (2) Both absorb digested food and water.
  - (3) Digested food can be found in both of them.
  - (4) Undigested food can be found in both of them.
  
3. The diagrams below show the human reproductive systems.



In which parts, A, B, C or D, are the human reproductive cells produced?

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

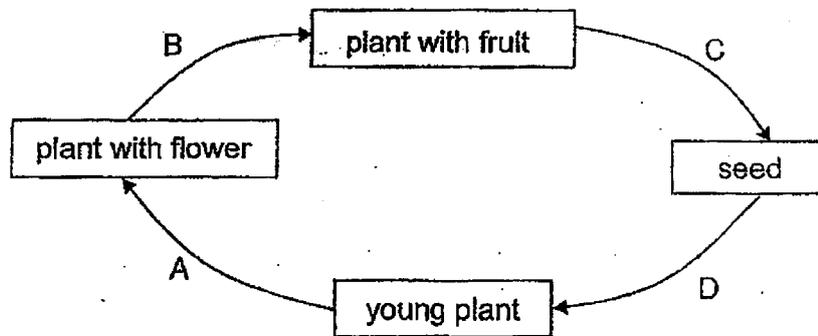
4. The diagram shows a cross-section of a flower.



Which of the following statement is correct?

- (1) Fertilisation occurs at Y.
- (2) W will become a seed after fertilisation.
- (3) Pollen grains are transferred from W to X.
- (4) The reproductive cells are found in X and Z.

5. The diagram below shows the developmental stages of a flowering plant.



Which arrow represents the processes of pollination, fertilisation and germination?

	Pollination	Fertilisation	Germination
(1)	B	B	C
(2)	A	C	D
(3)	B	B	D
(4)	A	C	B

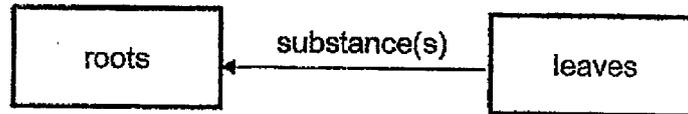
6. The statements below describe sexual reproduction in plants and humans:

- A The fertilised egg is found in the ovary.
- B Reproductive cells are produced in the anthers.
- C Fertilisation occurs in a female reproductive part.

Which of the following is correct?

	Plants	Humans
(1)	B	A, C
(2)	A, C	A
(3)	A, B, C	C
(4)	A, B, C	A, C

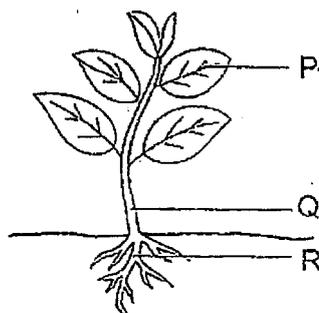
7. Look at the diagram of the plant transport system below.



Identify the substance(s).

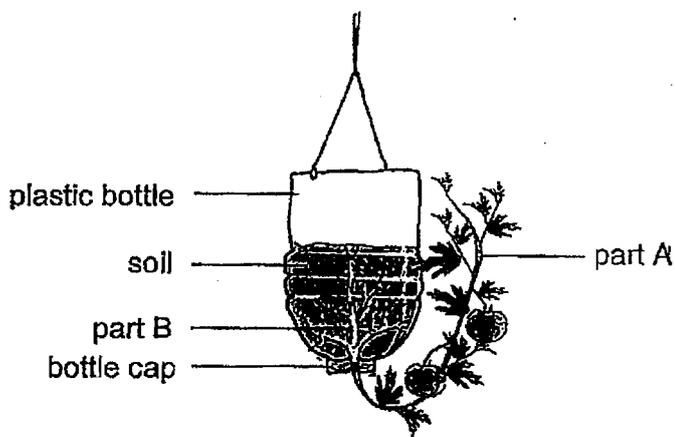
- (1) food
- (2) food and water
- (3) water and minerals
- (4) oxygen and carbon dioxide

8. The diagram below shows parts P, Q and R of a plant.



Which part(s) can the water-carrying tubes be found?

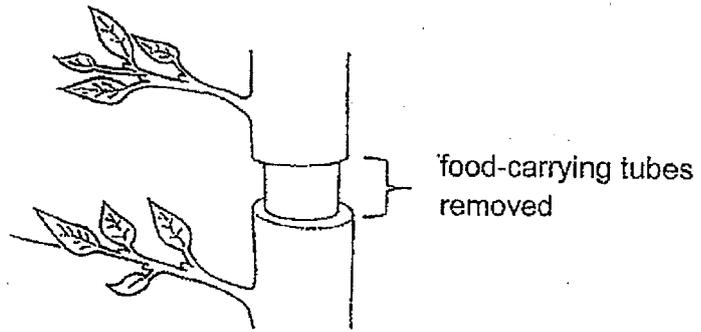
- (1) Q only
  - (2) P and R only
  - (3) Q and R only
  - (4) P, Q and R
9. Diana grew a tomato plant in the set-up below.



Which of the following best describes the function of each part, A and B?

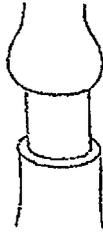
	Part A	Part B
(1)	holds the plant upright	makes food for the plant
(2)	holds the plant upright	absorbs water and mineral salts
(3)	absorbs water and mineral salts	transports water and mineral salts
(4)	absorbs water and mineral salts	holds the plant firmly in the soil

10. An outer ring of the stem containing the food-carrying tubes was removed from a plant as shown below. The plant is placed under the sun.

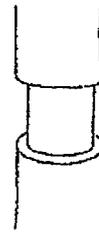


After one week, which of the following diagram is likely to represent the appearance of the stem?

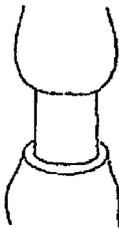
(1)



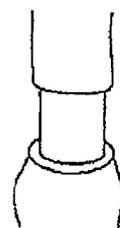
(2)



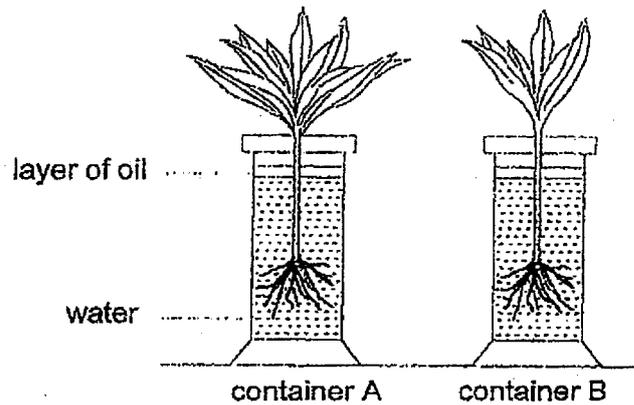
(3)



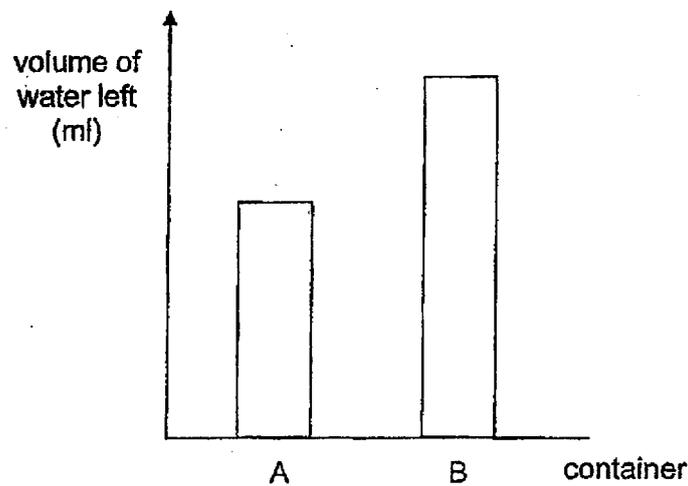
(4)



11. Vienna set up an experiment as shown below using the same type of plants. She wanted to find out if the number of leaves affects the volume of water absorbed by the plants.



After one week, Vienna recorded the amount of water left in each container as shown in the bar graph below.



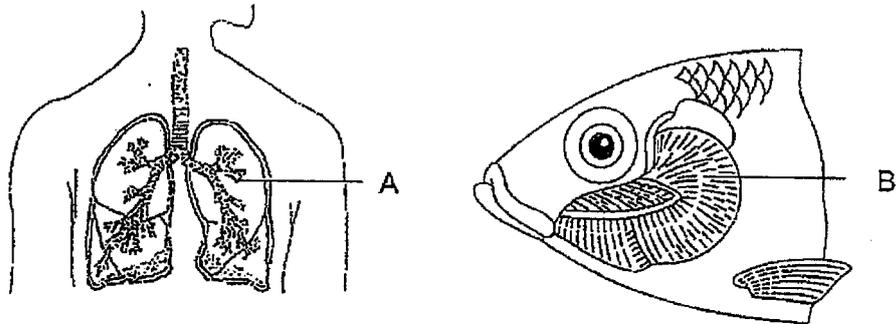
What is the relationship between the number of leaves and the amount of water absorbed by the plant?

- (1) As the number of leaves increases, the amount of water absorbed increases.
- (2) As the number of leaves decreases, the amount of water absorbed increases.
- (3) As the amount of water absorbed increases, the number of leaves increases.
- (4) As the amount of water absorbed increases, the number of leaves decreases.

12. Which statement about the respiratory system of a fish is **not** correct?

- (1) The gill cover protects the gills.
- (2) Gaseous exchange takes place in the gills.
- (3) Water poor in oxygen passes out through the mouth.
- (4) Oxygen in the water is absorbed into the bloodstream.

13. The diagrams below show the respiratory systems of a human and a fish.



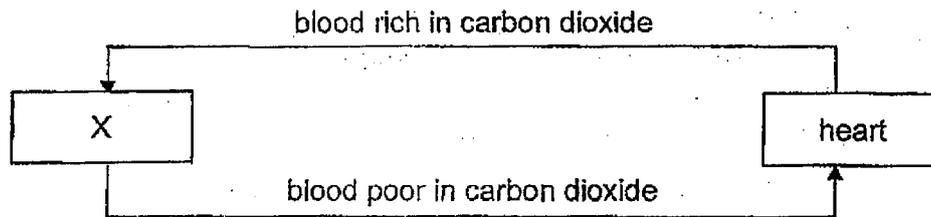
Which statement describes the similarity between parts A and B?

- (1) They have air sacs.
- (2) They are rich in blood supply.
- (3) They take in oxygen from the air.
- (4) They take in nutrients and digested food.

14. Which of the following is **not** part of the human circulatory system?

- (1) heart
- (2) lungs
- (3) blood
- (4) blood vessels

15. The diagram shows the transport of carbon dioxide in the blood.

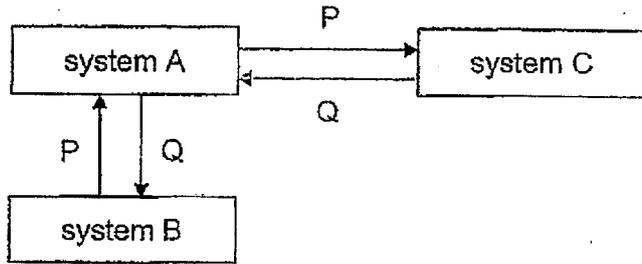


What could X be?

- A lung
  - B small intestine
  - C leg muscle
- (1) A only
- (2) B only
- (3) A and C only
- (4) B and C only

Use the diagram below to answer Questions 16 and 17.

16. The chart below shows how substances P and Q are transported in the human body.



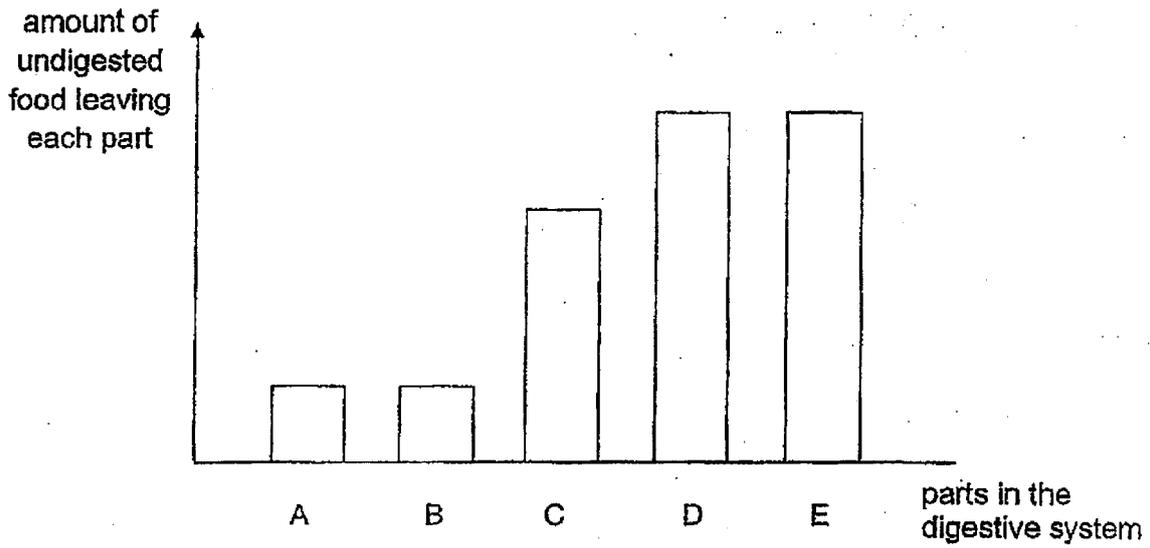
What are systems A, B and C?

	System A	System B	System C
(1)	circulatory	muscular	digestive
(2)	circulatory	muscular	respiratory
(3)	muscular	respiratory	circulatory
(4)	muscular	digestive	circulatory

17. How does the amount of P and Q transported in the human body change during exercise?

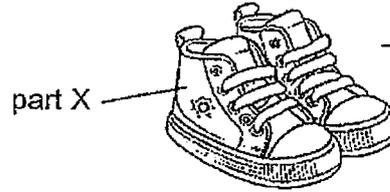
	P	Q
(1)	decreases	increases
(2)	decreases	decreases
(3)	increases	decreases
(4)	increases	increases

18. A, B, C, D and E are parts in the human digestive system. The graph below shows the amount of undigested food leaving each part after a meal.



	mouth	gullet	stomach	small intestine	large intestine
(1)	A	B	C	D	E
(2)	A	B	D	E	C
(3)	D	E	A	B	C
(4)	D	E	C	A	B

19. The diagram shows a pair of shoes.



For the user to fit into the shoes comfortably, it is most important for part X to be \_\_\_\_\_.

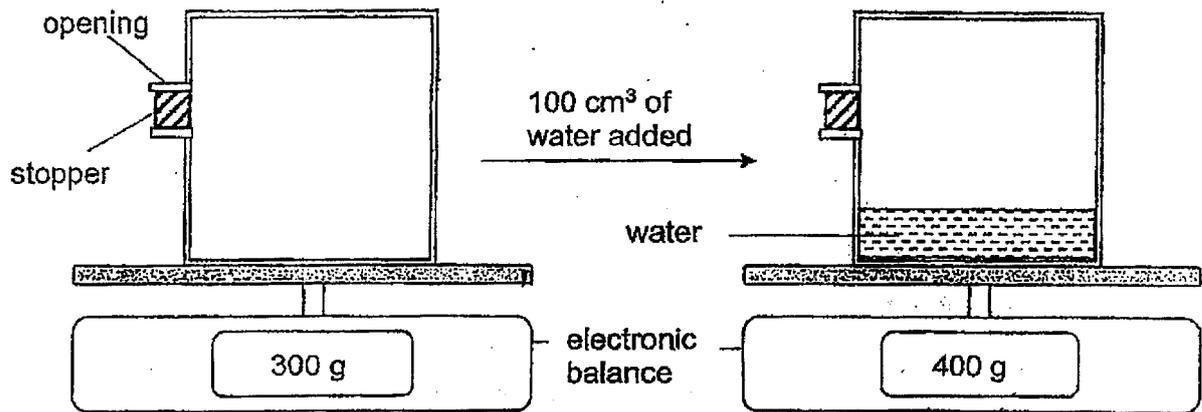
- (1) strong
  - (2) flexible
  - (3) waterproof
  - (4) able to float on water
20. Kelly wanted to find out how the exposed surface area of a container affects the evaporation of water.

Set-up	Exposed surface area of container (cm <sup>2</sup> )	Volume of water in container (ml)	Temperature (°C)	Wind
A	300	50	25	absent
B	150	80	30	present
C	150	50	25	absent
D	300	80	30	absent

Which two set-ups should Kelly use for her investigation?

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

21. A  $600 \text{ cm}^3$  tank with its opening sealed by a stopper was placed on an electronic balance.



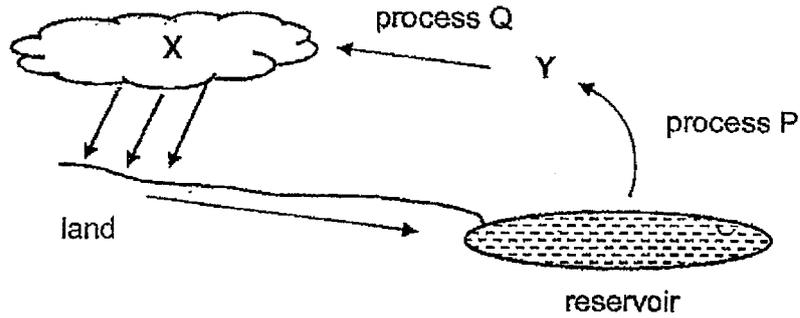
$100 \text{ cm}^3$  of water was pumped into the tank without any air escaping.

Which of the following correctly shows the changes in the mass and volume of air in the tank after pumping water into the tank?

	Mass of air	Volume of air
(1)	increases	decreases
(2)	increases	increases
(3)	remains the same	increases
(4)	remains the same	decreases

Please use the diagram below to answer Questions 22 and 23.

22. The diagram below shows the water cycle.



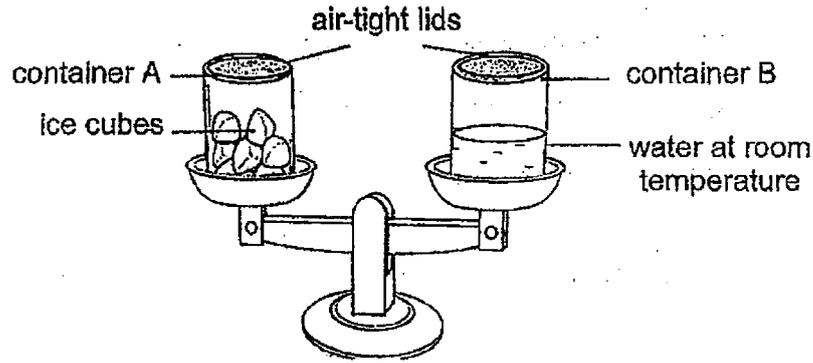
Which of the following shows the correct states of water when it is at X and Y?

	X	Y
(1)	solid	liquid
(2)	liquid	gas
(3)	liquid	solid
(4)	gas	solid

23. Which statement about processes P and Q is true?

- (1) P involves heat gain.
- (2) The presence of wind speeds up Q.
- (3) P and Q occur at a fixed temperature.
- (4) P occurs at a lower temperature than Q.

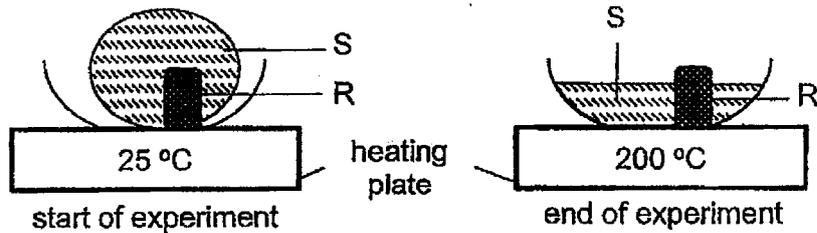
24. Two identical containers, A and B, were covered with air-tight lids. Container A was filled with 250 g of ice cubes and container B was filled with 250 g of water at room temperature. They were placed on a balance as shown below.



After ten minutes, the balance tilted downwards on the side of container A.

Which one of the following could be the reason for this observation?

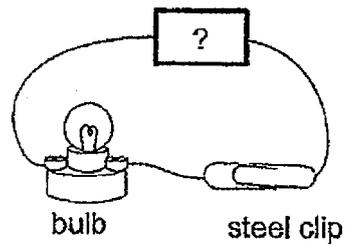
- (1) The ice cubes in container A melted.
  - (2) The water in container B evaporated.
  - (3) Water droplets were formed on the outer surface of container A.
  - (4) Water droplets were formed on the outer surface of container B.
25. Charlie heated up a bowl containing substances R and S to 200 °C. The diagram below shows what he observed at the start and at the end of the experiment.



Which of the following shows the possible freezing points of R and S based on his observation?

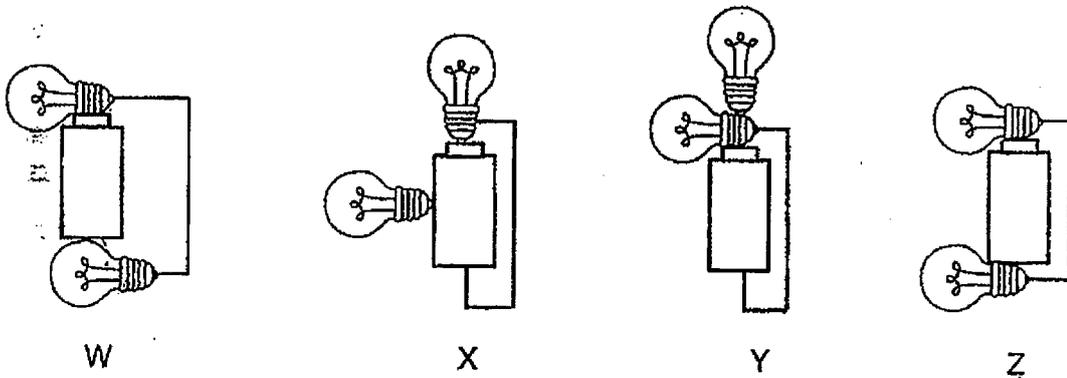
Freezing point (°C)		
	R	S
(1)	0	150
(2)	150	250
(3)	250	150
(4)	250	250

26. Pierre wanted to find out if a steel clip allows electricity to pass through. He set up the electric circuit as shown below.



Which of the following electrical component should Pierre add to his electric circuit to conduct his experiment?

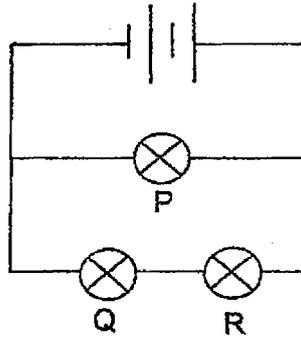
- (1) wire
  - (2) bulb
  - (3) switch
  - (4) battery
27. Study the four circuits, W, X, Y and Z, as shown below.



In which of the following set-up(s) will only one bulb light up?

- (1) Z only
- (2) W and X only
- (3) X and Y only
- (4) X, Y and Z only

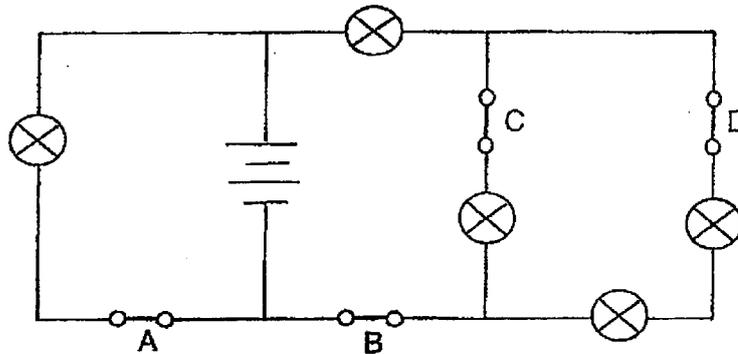
28. Zhi Heng set up the electric circuit shown below using the same type of bulbs. All three bulbs were lit.



When bulb Q fuses, what happens to bulbs P and R?

	bulb P	bulb R
(1)	does not light up	does not light up
(2)	brightness increases	does not light up
(3)	brightness increases	brightness increases
(4)	brightness remains unchanged	does not light up

29. Ellie set up an electric circuit as shown below using identical light bulbs.



All five bulbs were lit when all four switches were closed.

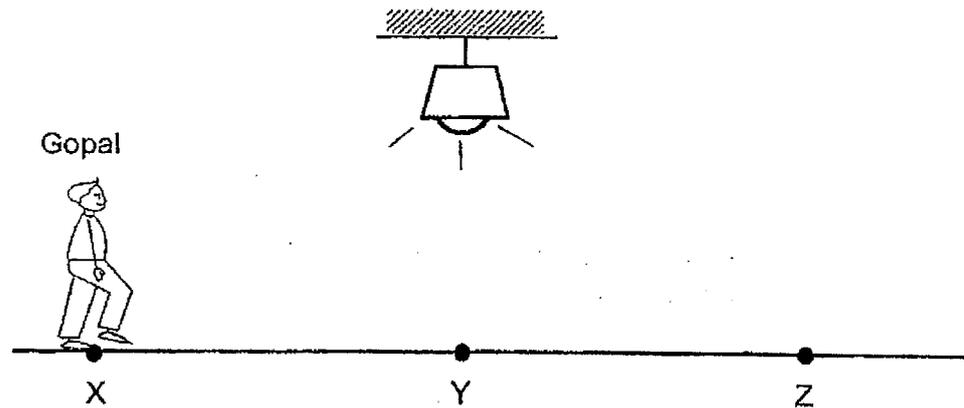
She wanted the **fewest** number of bulbs to be lit by opening only one switch.

Which switch should she open?

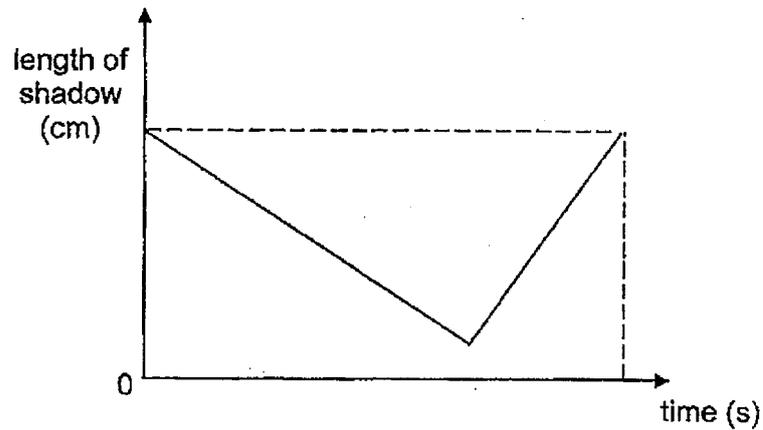
- (1) A
- (2) B
- (3) C
- (4) D

30. Gopal walked in a straight line from X to Z as shown in the diagram below.

Y is directly below the lamp. X and Z are at equal distances from Y.



The graph below shows how the length of Gopal's shadow on the ground changed as he walked from X to Z.



Which of the following statements is true?

- (1) He was walking slower from X to Y than Y to Z.
- (2) His shadow was the longest when he was at Y.
- (3) The length of his shadow was not the same at X and at Z.
- (4) As he walked away from the lamp from Y to Z, his shadow became shorter.



**Rosyth School**  
**End-of-Year Examination 2025**  
**SCIENCE**  
**Primary 5**

Name: \_\_\_\_\_ ( ) Class: 5

Date: 30 October 2025 Parent's Signature: \_\_\_\_\_

Total Time for Booklets A & B: 1 hour 45 minutes

This booklet consists of 16 printed pages (including this cover page).

## Booklet B

	Maximum Marks	Marks Obtained
Booklet A	60	
Booklet B	40	
<b>Total</b>	<b>100</b>	

### Instructions to Candidates

1. Please do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighters.

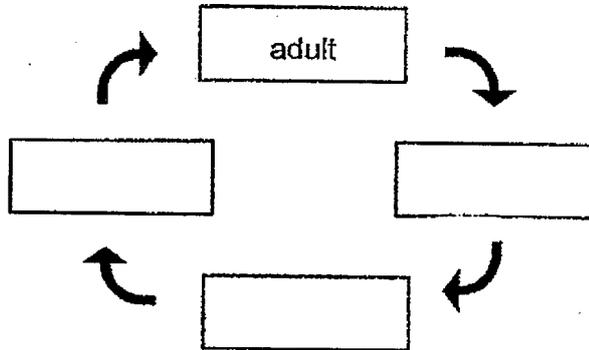
This paper is not to be reproduced in part or whole without the permission of the Principal.

**Section B [40 marks]**

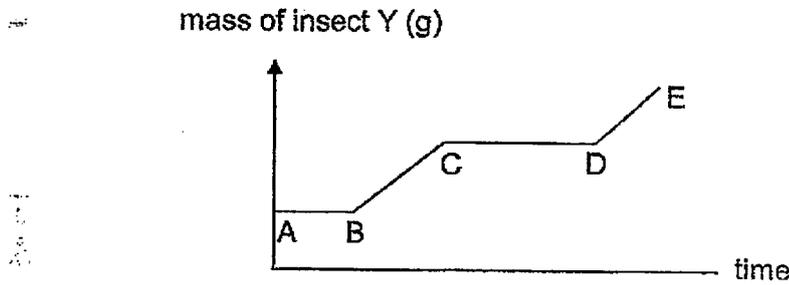
For questions 31 to 41, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Insect Y has four stages in its life cycle.

(a) Fill in the boxes with the stages for the life cycle of insect Y. [1]



The graph below shows the mass of insect Y at different stages of its life cycle.

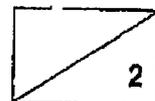


(b) Why did the mass of insect Y remain the same at CD? [1]

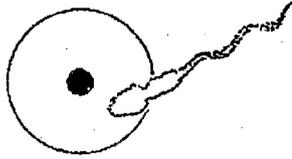
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Score



32. The diagram below shows a process in human reproduction.



(a) Identify the process shown in the diagram above. [1]

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(b) Describe what happens during the process in (a). [1]

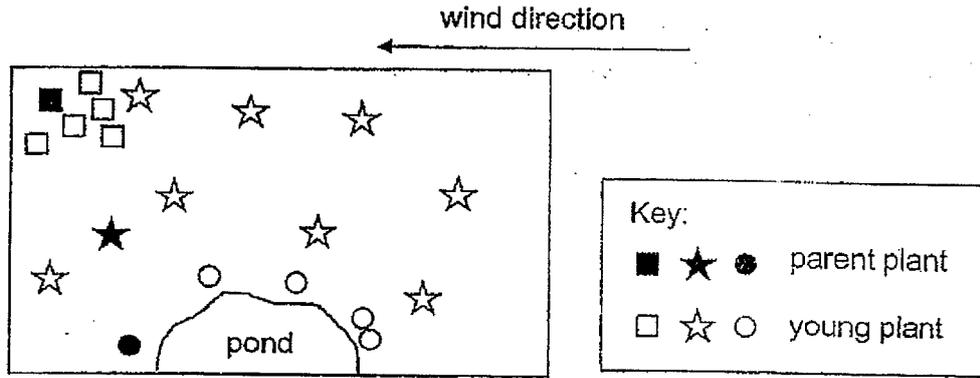
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Score

2
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33. The fruit dispersal patterns of three different plants are shown in the diagram below.



(a) Based on the diagram, put a tick (✓) in the table below to identify the correct fruit dispersal method for each plant. [1]

Plant	Method of fruit dispersal			
	Wind	Animal	Water	Splitting
■				
★				

(b) State how the fruit of plant ● is dispersed. Explain a physical characteristic of the fruit that helps in its dispersal. [2]

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(c) It is observed that as young plants grow nearer to the parent plant ■, their stems are taller and thinner. Give a reason for this observation. [1]

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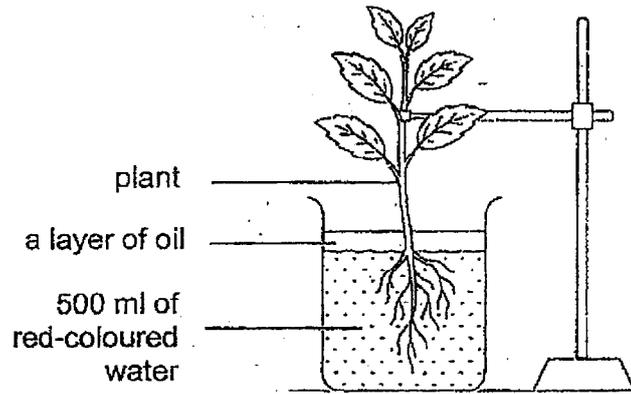


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Score

4
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34. Jenny placed a plant in a beaker with 500 ml of red-coloured water as shown below.



(a) After three days, Jenny observed that the leaves of the plant turned red. Explain her observation. [1]

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(b) After three days, Jenny measured the volume of red-coloured water left in the beaker. How does the layer of oil ensure the accuracy of the experimental results? [1]

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(c) Jenny was told that she needed a similar plant in her control set-up to compare if plants absorb coloured water faster.

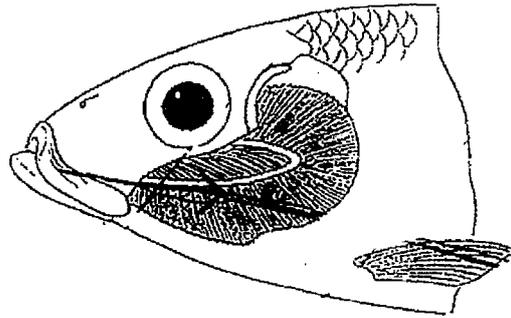
Tick (✓) the items that Jenny had to use for her control set-up. [1]

Item	Tick (✓)
a layer of oil	
a plant with three leaves	
a plant with six leaves	
a beaker with no water	
a beaker with 500 ml of water	
a beaker with 500 ml of blue-coloured water	

Score

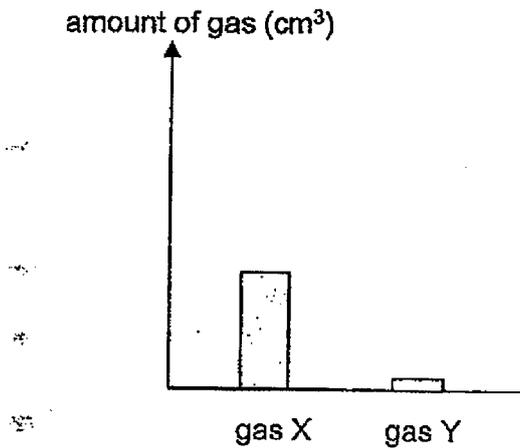
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35. Alice observed a fish and drew a diagram of its respiratory system as shown below.



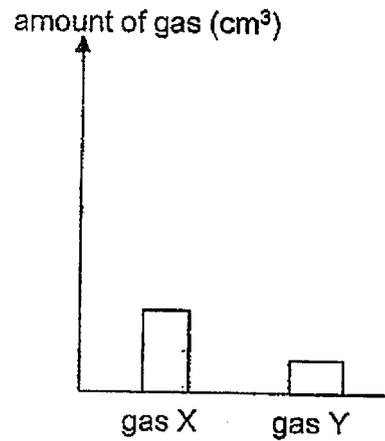
- (a) In the diagram above, draw an arrow ( $\rightarrow$ ) to show how water enters the fish. Draw another arrow ( $\rightarrow$ ) to show how water leaves the fish. [1]

The bar graphs below show the amount of gases X and Y present in the water that was entering and leaving the fish.



**Graph 1**

Gases in water entering the fish



**Graph 2**

Gases in water leaving the fish

- (b) Identify gases X and Y. [1]

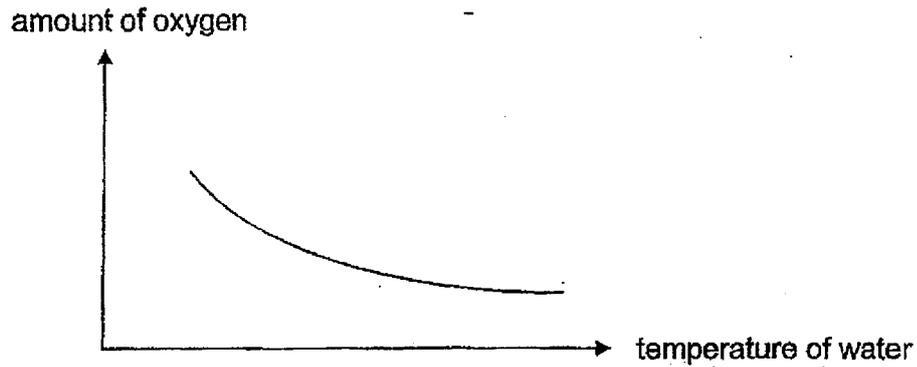
(i) gas X: \_\_\_\_\_

(ii) gas Y: \_\_\_\_\_

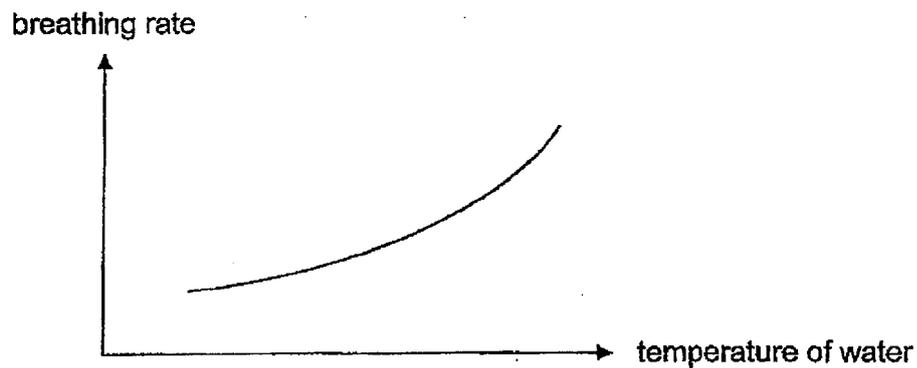
Score



Alice conducted an experiment to measure the amount of oxygen present in the water of her fish tank at different temperatures. Her results are shown in the graph below.



Alice observed some fish in the tank and recorded their breathing rate by counting the number of times they opened and closed their mouths at different temperatures.



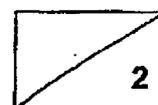
(c) Based on the graphs above, explain the effect of temperature of water on the breathing rate of the fish. [2]

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Score



36. Anthony wanted to find out if the age of a person affects his resting heart rate. He recorded the resting heart rates of four people as shown in the table below.

Person	Age	Number of heart beats per minute
W	11	100
X	25	75
Y	48	80
Z	65	60

- (a) What is the relationship between age and resting heart rate? [1]

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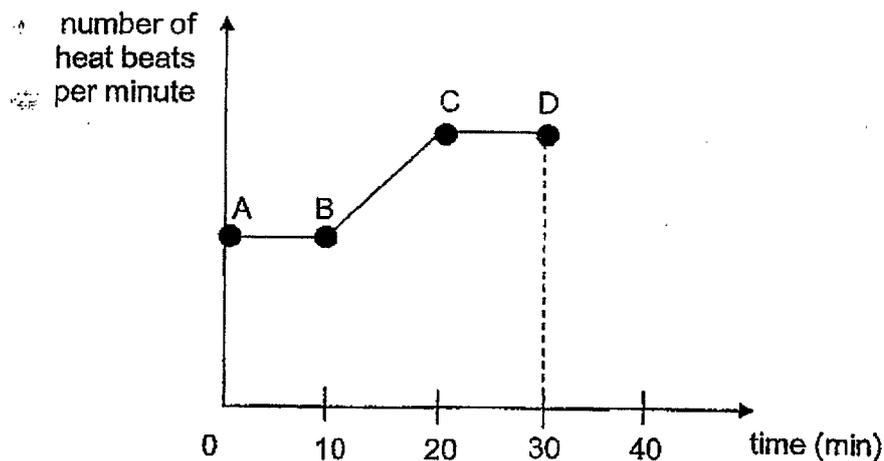
- (b) Other than repeating his experiment, what can Anthony do to ensure that his results are reliable? [1]

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The graph below shows how Anthony's heart rate changed over time when he walked to the park for a run.



- (c) Based on the graph, at which point, A, B, C or D, did Anthony start running? Give a reason for your answer. [1]

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Score



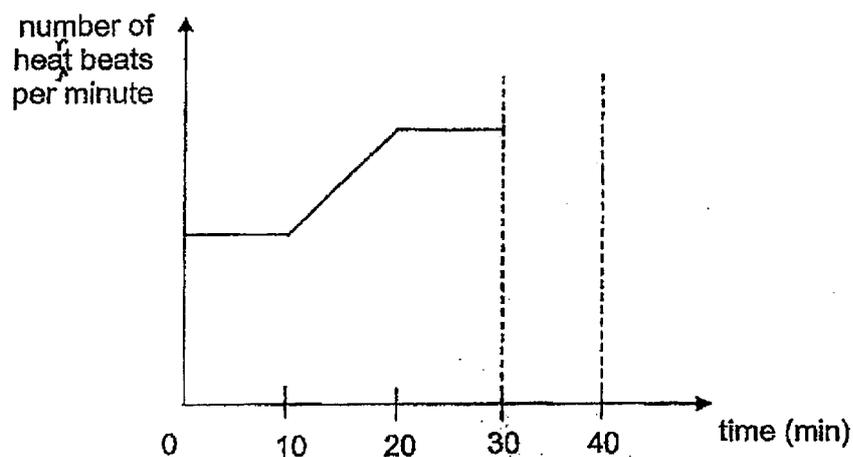
- (d) The volume of blood transported to Anthony's legs increased when he started running. Explain why. [1]

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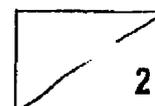
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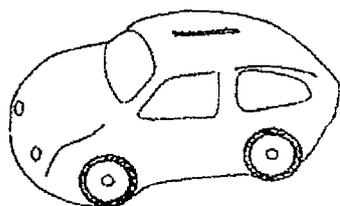
- (e) Complete the graph below to show the change in Anthony's heart rate from the 30<sup>th</sup> min to 40<sup>th</sup> min when he slowed down to a jog. [1]



Score



37. Tom has a coin bank as shown in the diagram below.



coin bank  
volume inside:  $100 \text{ cm}^3$



coin  
volume:  $1 \text{ cm}^3$

- (a) Tom used a syringe to add exactly  $100 \text{ cm}^3$  of water into it.  
State the property of water that allowed it to flow into the coin bank. [1]

---

Tom emptied the water from the coin bank and tried to fill it up with 100 similar coins. Each coin has a volume of  $1 \text{ cm}^3$ . He was unable to do so.

- (b) Explain why Tom cannot put all the coins into the coin bank. [1]

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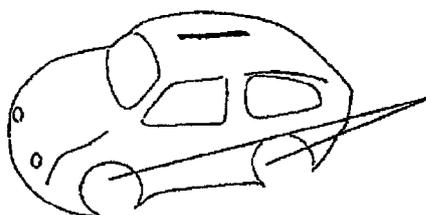


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After a few weeks, Tom lost the wheels on his coin bank. He weighed the coin bank and found out that it was lighter than before.



coin bank with  
missing wheels

- (c) Why did the coin bank become lighter? [1]

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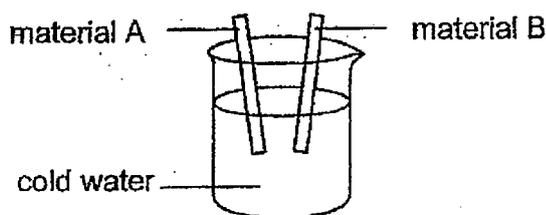


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Score



38. Siti placed two rods made of different materials A and B, into a beaker of cold water as shown below.



After five minutes, she recorded the temperatures of both rods as shown in the table below.

Material	Starting temperature (°C)	Final temperature (°C)
A	30	25
B	30	18

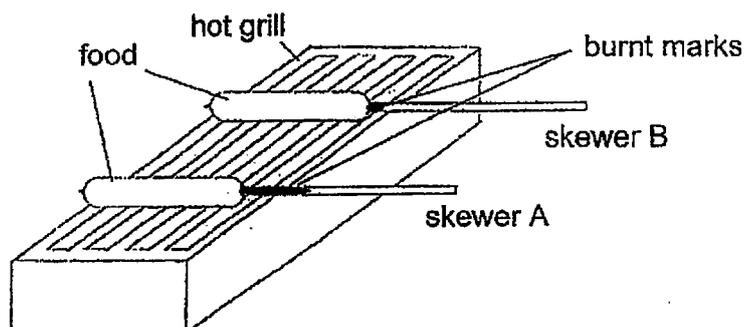
- (a) Which material, A or B, is a better conductor of heat? Explain your answer. [1]

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Siti cooked food using skewers made of materials A and B. Both skewers with food were left on the hot grill for the same amount of time. Equal parts of both skewers were in contact with the hot grill as shown below.



When the skewers became too hot, there would be burnt marks on them.

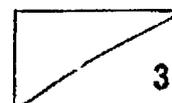
- (b) After some time, Siti observed that skewer A had more burnt marks. Explain her observation. [2]

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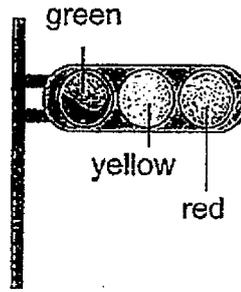


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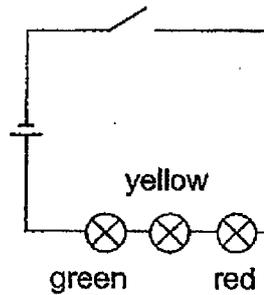
Score



39. The three coloured lights of a traffic light light up one at a time to control the traffic.



George constructed the circuit below, using three coloured bulbs, to represent the three coloured lights of a traffic light.



- (a) George was told that the coloured bulbs in his circuit cannot be lighted up one at a time. Explain why. [2]

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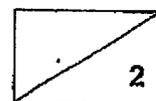


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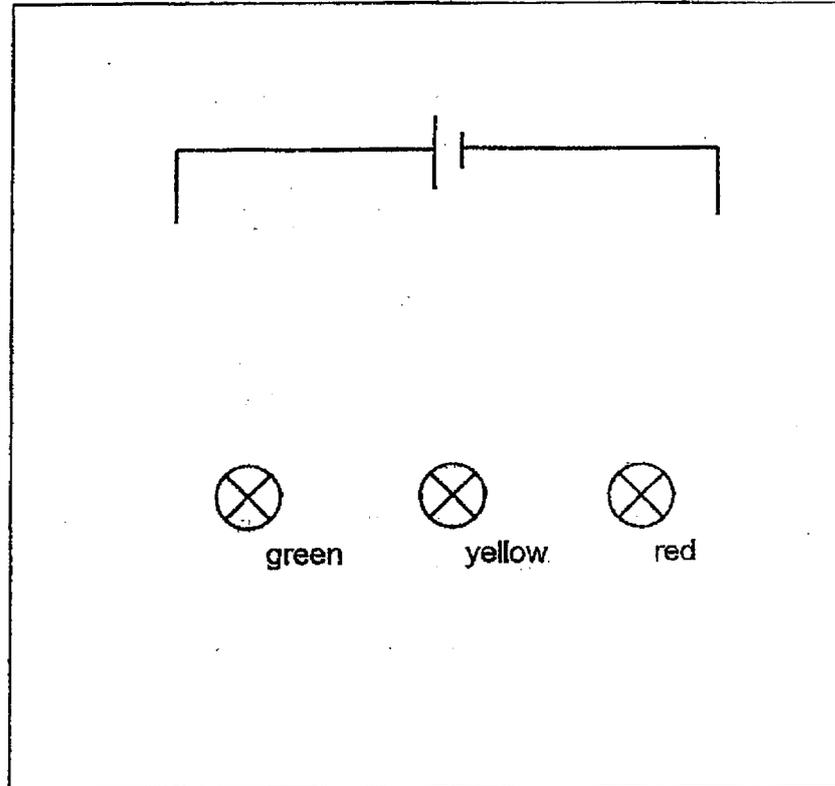
Score



George decided to construct a new circuit to light up the three bulbs one at a time. He used three coloured bulbs, three switches and some wires.

- (b) Complete the circuit diagram in the box below to show how the circuit would look like after he had made his changes.

Use circuit symbols to represent the different components of the circuit. A part of the circuit diagram has been drawn for you. [2]



- (c) Besides being able to control the lighting of the bulbs independently with switches, state another advantage of the circuit arrangement in (b). [1]

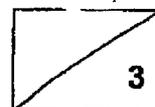
(Do not compare the brightness of the bulbs.)

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Score



40. (a) State one difference between boiling and evaporation.

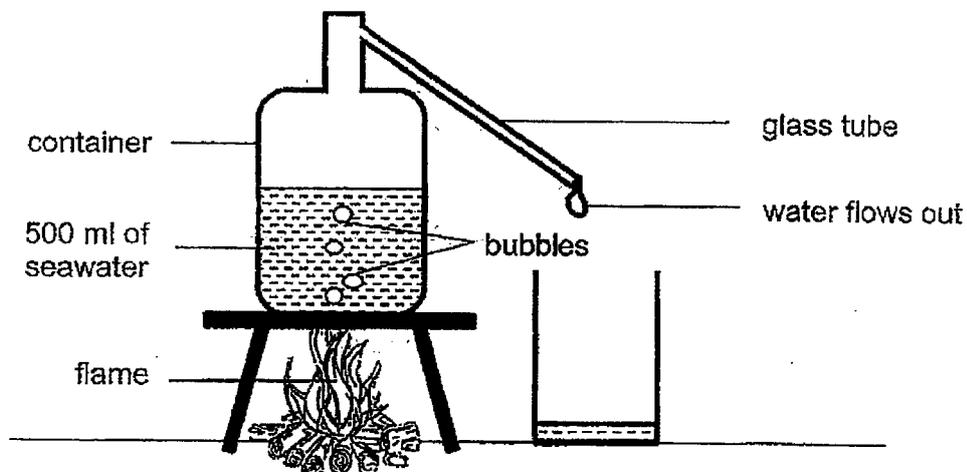
[1]

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Jeremy prepared the set-up as shown below to obtain water.



(b) Explain how the above set-up helps Jeremy to obtain water.

[2]

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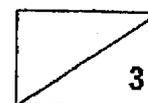


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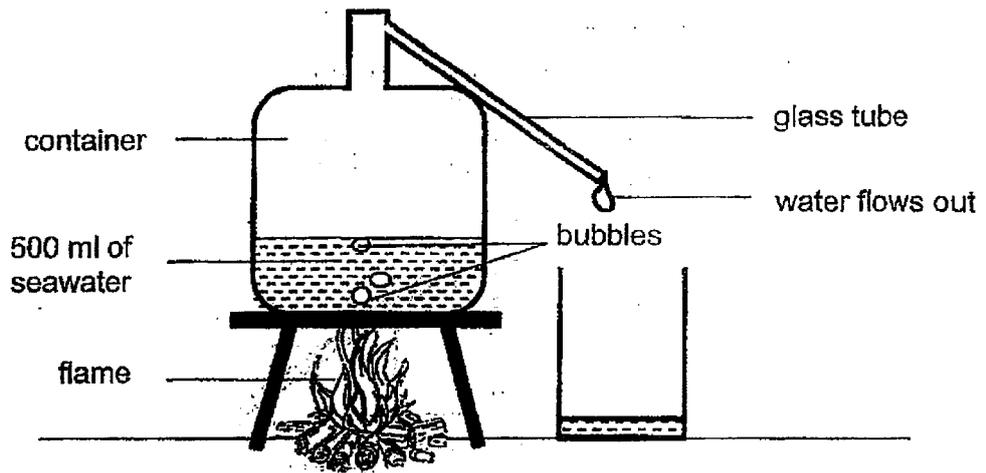


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Score



Jeremy repeated his experiment with a container that had a wider base as shown in the diagram below.



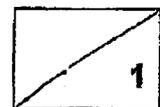
- (c) The time taken for the same amount of water to be collected decreased. Explain why. [1]

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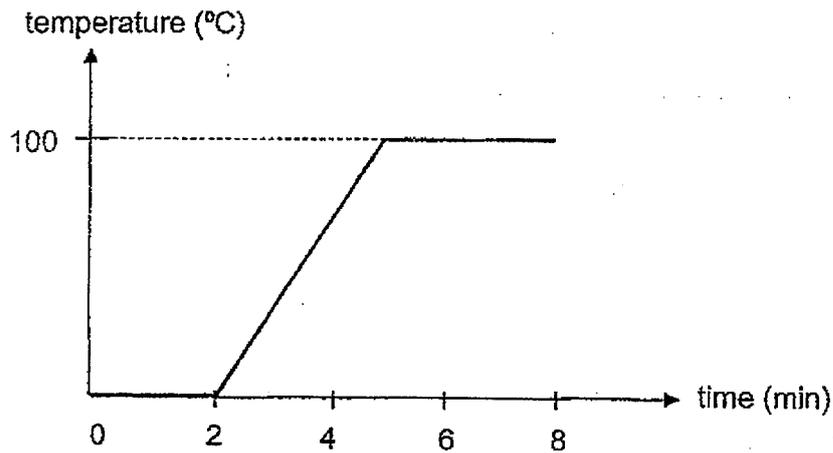
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Score



41. Josher heated ten ice cubes in a pot over a flame for 8 minutes. He recorded the changes in the temperature of the ice over time as shown in the graph below.



After heating the ice cubes for 4 minutes, Josher observed white clouds forming above the pot.

- (a) Describe how the white clouds are formed. [2]

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At the 6<sup>th</sup> minute, Josher placed a glass lid over the pot. He observed that less water droplets were formed on the lid after some time.

- (b) Explain why the formation of water droplets on the underside of the lid slowed down. [1]

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- (c) If Josher repeats his experiment using twenty ice cubes, the time taken for the white clouds to be formed will increase. Explain why. [2]

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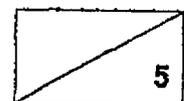
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End of Paper

Score





SCHOOL : ROSYTH SCHOOL  
LEVEL : PRIMARY 5  
SUBJECT : SCIENCE  
TERM : 2025 SA2

(BOOKLET A)

Q1	3	Q2	4	Q3	2	Q4	4	Q5	3
Q6	3	Q7	1	Q8	4	Q9	2	Q10	3
Q11	1	Q12	3	Q13	2	Q14	2	Q15	1
Q16	2	Q17	4	Q18	4	Q19	2	Q20	1
Q21	4	Q22	2	Q23	1	Q24	3	Q25	3
Q26	4	Q27	3	Q28	4	Q29	2	Q30	1

BP~1012

## EYE Science Examination 2025 – Corrections

Name: \_\_\_\_\_

Class: \_\_\_\_\_

No.	Answers																			
31a.	<p><b>Key Concept:</b> To recognise the stages of a 4-stage life cycle.</p> <pre> graph TD     adult[adult] --&gt; egg[egg]     egg --&gt; larva[larva]     larva --&gt; pupa[pupa]     pupa --&gt; adult           </pre>																			
31b.	<p><b>Key Concept:</b> To show understanding of interpreting the bar graph and align it with the correct stage in a life cycle of an insect.</p> <p>The pupa (½) does not eat (½).</p>																			
32a.	<p><b>Key Concept:</b> Fertilisation in Human Reproduction</p> <p>Fertilisation</p>																			
32b.	<p><b>Key Concept:</b> Explain what fertilisation in human reproduction means.</p> <p>The sperm/male reproductive cell _____ fuses _____ with the egg/female reproductive cell.</p>																			
33a.	<p><b>Key Concept:</b> Recognise the methods of dispersal based on dispersal patterns</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Symbol</th> <th colspan="4">Method of dispersal</th> </tr> <tr> <th>Wind</th> <th>Animal</th> <th>Water</th> <th>Splitting</th> </tr> </thead> <tbody> <tr> <td>■</td> <td></td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>★</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> </tbody> </table>	Symbol	Method of dispersal				Wind	Animal	Water	Splitting	■				✓	★		✓		
Symbol	Method of dispersal																			
	Wind	Animal	Water	Splitting																
■				✓																
★		✓																		
33b.	<p><b>Key Concept:</b> Recognise the characteristic of fruit dispersed by water.</p> <p>Water dispersal.(1) The fruit has a _____ waterproof _____ outer covering / _____ fibrous _____ husk (1)</p>																			
33c.	<p><b>Key Concept:</b> Recognise external factors that affect the growth of new plants dispersed by splitting.</p>																			

	The young plants need to <u>          </u> compete <u>          </u> with parent plant for sunlight <u>          </u> , (space, water and minerals).														
34a	<p><b>Key Concept:</b> Recognise how water is transported from the roots to other parts of the plant</p> <p>Red coloured water is <u>          </u> absorbed <u>          </u> by the roots (½) and transported to the leaves through the <u>          </u> water carrying-tube <u>          </u> in the stem. (½)</p>														
34b	<p><b>Key Concept:</b> Show objectivity by seeking data and information to validate observations and explanations about experiments</p> <p>To ensure that any decrease/change in the volume of water is due to the <u>          </u> absorption <u>          </u> by the plant (½) and not <u>          </u> evaporation <u>          </u> (½).</p>														
34c	<p><b>Key Concept:</b> Determine apparatus used in an experiment to conduct a fair test</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Item</th> <th style="width: 30%;">Tick (✓)</th> </tr> </thead> <tbody> <tr> <td>a layer of oil</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>a plant with three leaves</td> <td></td> </tr> <tr> <td>a plant with six leaves</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>a beaker with no water</td> <td></td> </tr> <tr> <td>a beaker with 500 ml of water</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>a beaker with 500 ml of blue coloured water</td> <td></td> </tr> </tbody> </table>	Item	Tick (✓)	a layer of oil	✓	a plant with three leaves		a plant with six leaves	✓	a beaker with no water		a beaker with 500 ml of water	✓	a beaker with 500 ml of blue coloured water	
Item	Tick (✓)														
a layer of oil	✓														
a plant with three leaves															
a plant with six leaves	✓														
a beaker with no water															
a beaker with 500 ml of water	✓														
a beaker with 500 ml of blue coloured water															
35a.	<p><b>Key Concept:</b> state the flow of gases involved in a fish.</p> <div style="text-align: center;"> </div>														
35b.	<p><b>Key Concept:</b> state the gases involved in the gaseous exchange in a fish.</p> <p>gas X: <u>          </u> oxygen <u>          </u></p> <p>gas Y: <u>          </u> carbon dioxide <u>          </u></p>														
35c.	<p><b>Key Concept:</b> Show temperature of water affect the breathing rate of the fish.</p> <p><b>Relationship of Temperature &amp; Breathing Rate</b>          As the temperature of water <u>          </u> increases <u>          </u>, the breathing rate of the fish <u>          </u> increases <u>          </u> (1).</p>														

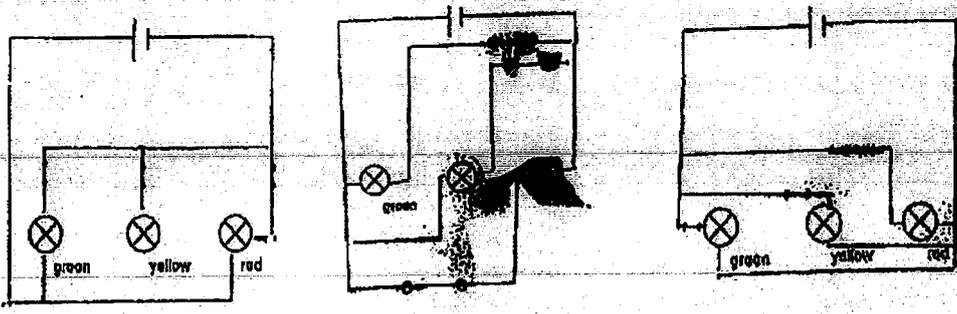
	<p><b>Explanation for increased breathing rate</b>  As temperature increases, there is <u>less oxygen</u> in the water (<math>\frac{1}{2}</math>) so the fish had to breathe faster/harder to take in <u>enough / more</u> (<math>\frac{1}{2}</math>).</p>
36a	<p><b>Key Concept:</b> Use data and information to state the relationship of the age and the resting heart rate.</p> <p>As the age <u>increases</u>, the resting heart rate <u>decreases</u></p>
36b	<p><b>Key Concept:</b> Show objectivity by seeking data and information to validate observations and explanations about the human body.</p> <p>He can carry out the experiment with <u>more people</u> (<math>\frac{1}{2}</math>) at each <u>age / of different ages</u> (<math>\frac{1}{2}</math>).</p>
36c.	<p><b>Key Concept:</b> Show objectivity by seeking data and information to validate observations and explanations about the human body.</p> <p>B. (<math>\frac{1}{2}</math>) His heart rate <u>increased</u> (<math>\frac{1}{2}</math>)</p>
36d.	<p><b>Key Concept:</b> To explain how the heart rate is affected when a person starts to run</p> <p>More blood rich in <u>oxygen and digested food</u> (<math>\frac{1}{2}</math>) are transported to his legs to release <u>more energy</u> (<math>\frac{1}{2}</math>)</p>
36e.	<p><b>Key Concept:</b> To explain how the heart rate is affected when a person starts to slow down from a run to a jog.</p> <div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 20px;"> <p><math>\frac{1}{2}</math> - Show decreasing trend</p> <p><math>\frac{1}{2}</math> - above the resting heart rate</p> </div> </div>
37a	<p><b>Key Concept:</b> State the correct state of matter.</p> <p>Water / Liquid has no definite/ fixed shape.</p>
37b	<p><b>Key Concept:</b> State the correct state of matter.</p> <p>[E] Each coin has <u>a definite shape</u> (<math>\frac{1}{2}</math>).</p> <p>[R] There would be <u>air spaces</u> left between the coins (<math>\frac{1}{2}</math>)</p>

<p>37c</p>	<p><b>Key Concept:</b> State the relationship with evidence from given information.</p> <p>[E] Wheels have _____ mass _____ (½)</p> <p>[R] Without wheels, the coin bank has <b>less mass / mass decreases / mass became lighter</b> (½)</p>
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<p>38a</p>	<p><b>Key Concept:</b> Show an understanding of which material is a better conductor of heat with reasoning.</p> <p>[C] B [E] It has a _____ lower / less _____ temperature (½)</p> <p>[R] It lost _____ more heat _____ to the cold water / heat is _____ lost faster _____ to the cold water (½)</p>
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<p>38b</p>	<p><b>Key Concept:</b> Show an understanding that heat flows from a hotter to a colder object/region/place.</p> <p>[E] A is a _____ poorer _____ conductor of heat (1)</p> <p>[R] A _____ lost _____ to the surrounding air slower (1)</p>
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<p>39a</p>	<p><b>Key Concept:</b> show an understanding of the correct arrangement of bulbs and batteries in a close circuit</p> <p>[E]: The bulbs are arranged in a _____ series _____ arrangement / circuit [1].</p> <p>[R]: When the switch is closed, _____ electricity will flow through _____ the circuit to light up all the bulbs [1] at the same time.</p>
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<p>39b</p>	<p><b>Key Concept:</b> investigate the effect of arrangement of bulbs on a circuit</p> 
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<p>39c</p>	<p><b>Key Concept:</b> show an understanding of the correct arrangement of bulbs and batteries in a close circuit</p> <p>When one bulb fuses, the other bulb can still light up.</p>
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40a	<p><b>Key Concept: Differences between boiling and evaporation</b></p> <p>Evaporation can occur _____ at any temperature _____ but boiling only takes place at a _____ fixed temperature _____ or Evaporation only occurs _____ on the surface _____ but boiling occurs throughout _____ the water _____.</p>
40b	<p><b>Key Concept: Explain boiling (question provides bubbles as evidence)</b></p> <p>1st pt: water _____ in the seawater (½) (gains heat from the flame and boils to) become _____ steam _____ (½).</p> <p>2nd pt: Steam loses heat to / touches the _____ cooler surface _____ of the glass tube/ _____ cooler top _____ of the container (½) and _____ condenses _____ (½) to form water.</p>
40c	<p><b>Key Concept: Greater surface area of container in contact with the heat source / Greater exposed surface area of water</b></p> <p><b>Answer with reference to the Container</b>  [E] The _____ surface area _____ of the container in contact with the heat source is _____ greater _____ (½)  [R] Water in the container gains heat _____ faster _____ / boils faster. (½) OR</p> <p><b>Answer with reference to the Water</b>  [E] The _____ water _____ in the container has a larger exposed surface area (½)  [R] Steam can escape into the air _____ faster _____ / _____ evaporated _____ faster. (½)</p>
41a	<p><b>Key concept: Show the understanding of how condensation work.</b></p> <p>1st pt: Water (gained heat from the flame and) _____ evaporated _____ (½) to form _____ water vapour _____ (½).</p> <p>2nd pt: Water vapour lost heat to the _____ cooler surrounding air _____ (½) and _____ condensed _____ (½) (to form the white clouds).</p>

41b	<p><b>Key concept: Recognize factors affecting rate of condensation</b></p> <p>The lid has _____ gained heat _____ / become hotter / temperature of lid increased (from the steam) (½) and it was no longer a _____ cooler surface to condense on / there was less _____ condensation _____ (½).</p>
41c	<p><b>Key concept: Explain that the amount of heat is affected by the volume</b></p> <p>[E] There is _____ more volume _____ of ice / water (1)</p> <p>[R] _____ more heat will be needed _____ to melt the ice / evaporate / boil the water (1)</p>

END