RAFFLES GIRLS' PRIMARY SCHOOL
WEIGHTED ASSESSMENT 1
PRIMARY SIX
2025

SCIENCE

Name: _____ ( ) Date : 26 February 2025

Class: P6 _____ Total Time: 50min

INSTRUCTIONS

1. Write your name, class and index number in the spaces provided above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.

Your score **out of 30**	
Parent's signature	

1. The table shows the composition of some gases found in both the inhaled and exhaled air of Ali.

Type of gas	(a)(i)_____ air (% in air)	(a)(ii) _____ air (% in air)
Carbon dioxide	4	0.01
Nitrogen	78	78
Oxygen	17	21

(a) Based on the information found in the table above, fill in the blanks, (a)(i) and (a)(ii), with the correct words, 'inhaled' or 'exhaled'. [2]

(b) Name another gas that is found in higher percentage in the exhaled air than the inhaled air. [1]

_____

Score	/ 3

2. George placed a potted plant shown in diagram X in a dark room for two days.

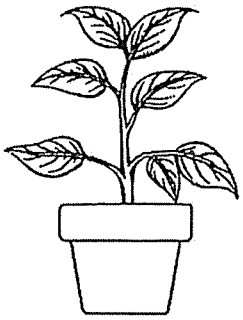


Diagram X

After two days, leaf C was covered completely with black cardboard and leaf D was placed in a transparent plastic bag which contained a substance that removed carbon dioxide as shown in diagram Y. The potted plant was then placed in the garden.

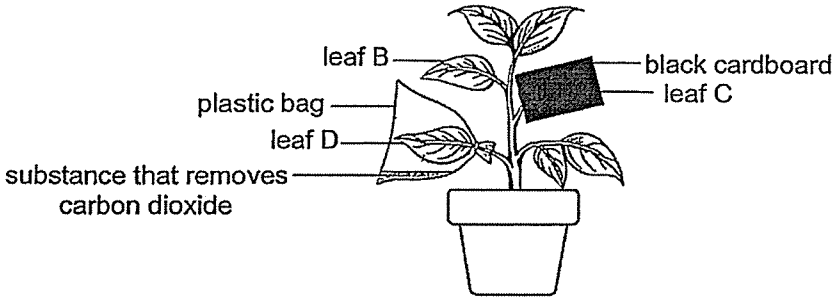


Diagram Y

(a) Which two leaves, B, C and/or D, should George compare to find out if carbon dioxide is needed for photosynthesis? [1]

_____

(b) How would the amount of oxygen in the plastic bag change over time? Give a reason for your answer. [1]

_____

_____

Continue on page 3

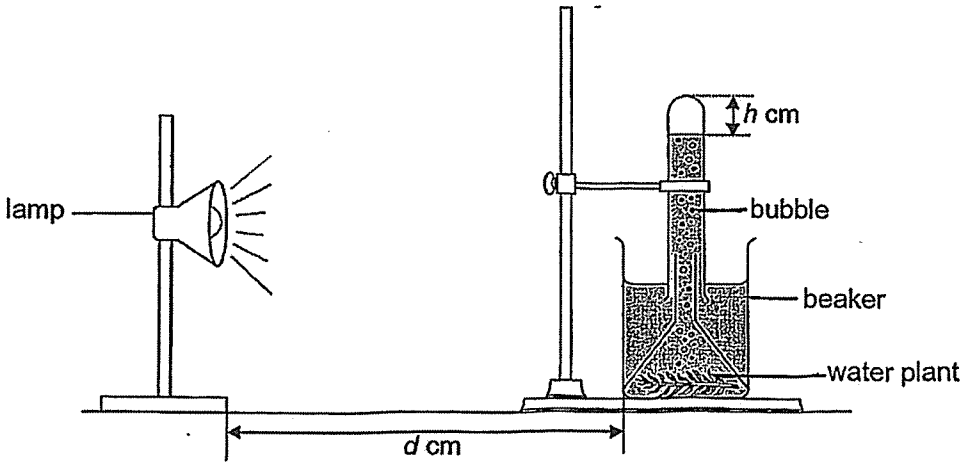
Score	/ 2

Continued from page 2

George conducted a starch test on leaf C using iodine solution. Iodine is a brown solution that turns blue-black in the presence of starch.

(c) What would the colour of iodine be when it is placed on the leaf? Explain your answer [2]

3. Nina wanted to find out if the intensity of light would affect the rate of photosynthesis. She conducted an experiment using the set-up shown in the diagram.



(a) State a reason why Nina should conduct the experiment in a dark room. [1]

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Score	/ 3

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(b) In the table below, put a tick (✓) in the correct boxes to identify the dependent and constant variables for Nina's experiment. [3]

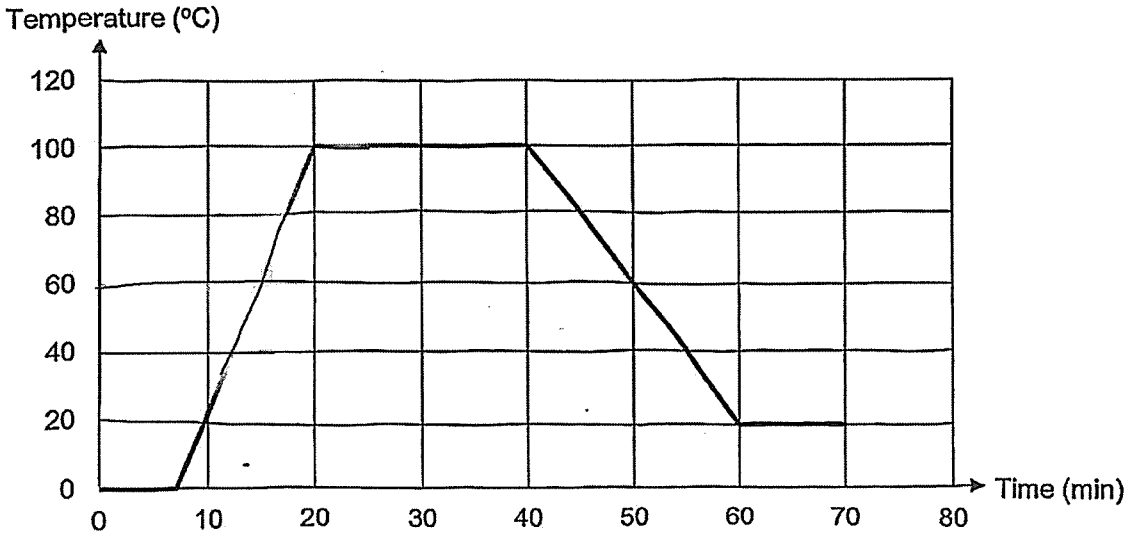
Variables	Dependent / Measured Variable(s)	Constant Variable / Variable to keep the same
Amount of water		
Type of water plant		
Height (*h*) in boiling tube after five minutes		
Distance (*d*) between the lamp and the beaker		
Amount of carbon dioxide in the water at the start of the experiment		

(c) After a few minutes into the experiment, Nina observed bubbles appearing from the leaves of the plant. Name the gas produced by the leaves. [1]

_____

Score	4

4. Sally heated a beaker of ice over a period of time and recorded the change in temperature in the graph below.



Based on the information above, answer the following questions:

(a) When did boiling start? [1]

_____

(b) State the room temperature. [1]

_____

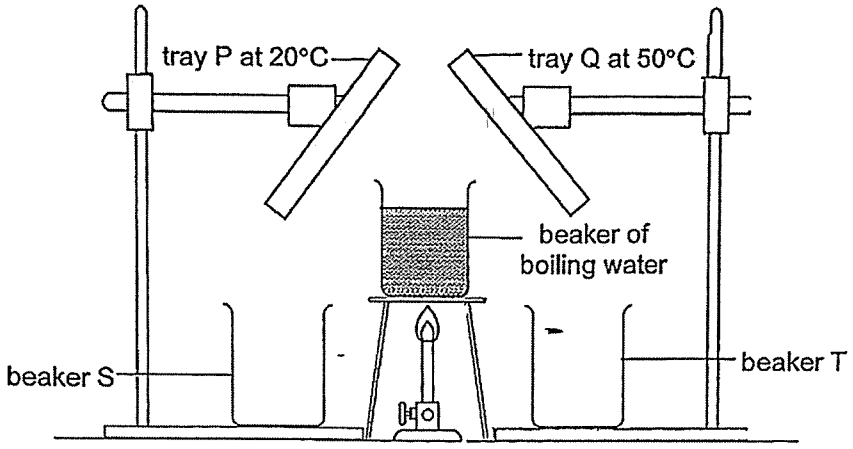
(c) State a difference between the process of boiling and evaporation. [1]

_____

_____

Score	/3

5. Ellen placed the following set-up in a room with a constant temperature of 25°C. She heated the water until it started to boil. Ellen observed water droplets forming on identical trays, P and Q, and water was collected in both beakers, S and T.



(a) Describe how water was collected in both beakers, S and T. [2]

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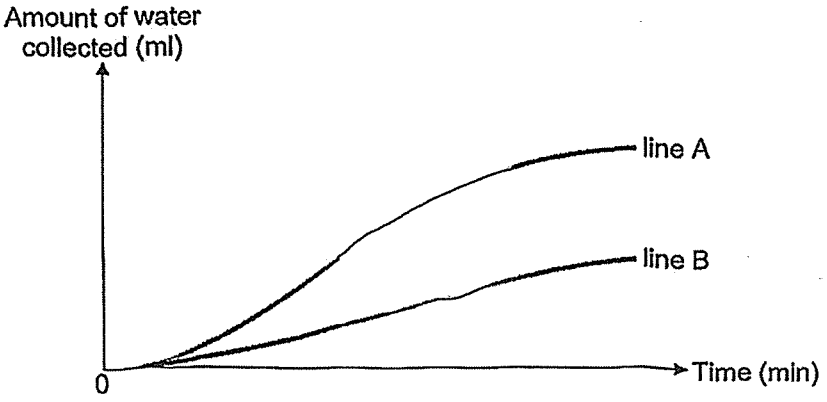
Continue on page 7

Score	/ 2

Continued from page 8

Ellen measured the amount of water collected in beakers S and T over a few minutes and recorded it in the graph shown.



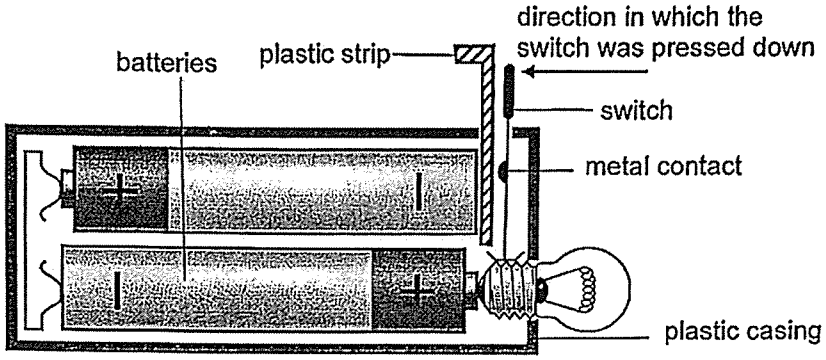
(b) Which line, A or B, shows the amount of water collected in beaker S? Explain your answer. [2]

_____

_____

Score	/ 2

6. (a) Mahit bought a new torch. The torch has a removable plastic strip inserted as shown in the diagram.

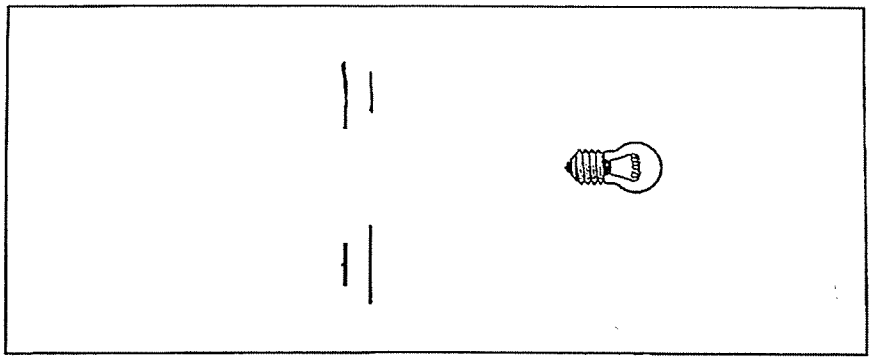


(i) Nelly suggested to Mahit that the plastic strip needs to be removed so that the torch will light up when the switch was pressed down in the direction as shown in the diagram. Do you agree with Nelly? Why? [1]

_____

_____

The following diagram shows part of the circuit of the torch.



(ii) Complete the circuit diagram above by using one switch and some wires so that the torch will light up. [1]

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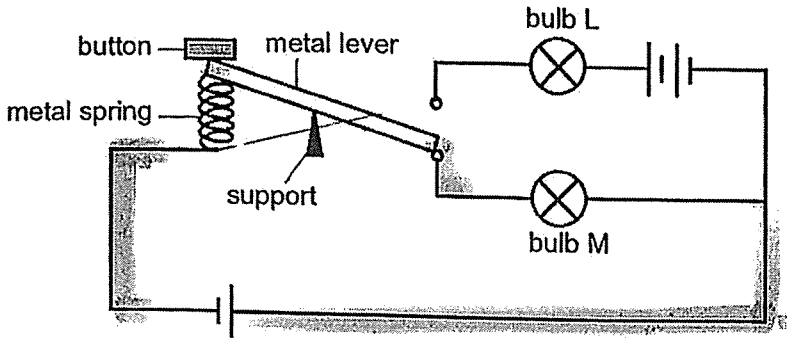
Score	/ 2

Continued from page 8

(b) Study the circuit shown in the diagram below. Three identical batteries and two identical bulbs, L and M, were used.



(i) Put a tick (✓) in the correct boxes, to indicate if the bulb will light up when the button is pushed downwards or released. [1]

Action	Bulb L lights up	Bulb M lights up
Button pushed downwards		
Button is released		

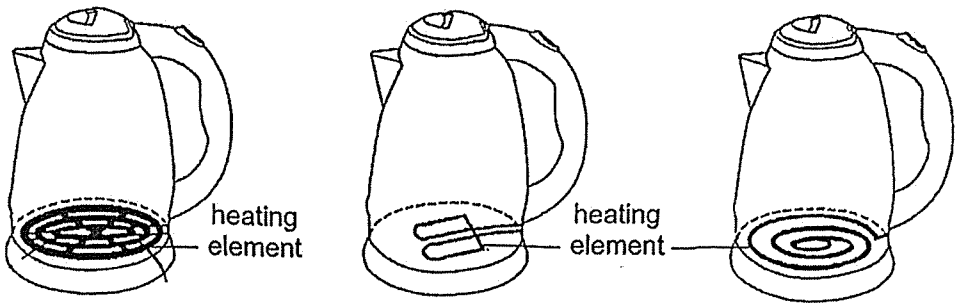
(ii) Explain why the spring and the lever need to be made of metal. [1]

_____

_____

Score	/ 2

7. The diagram shows three identical kettles, A, B and C. The heating elements used to heat up the water, are made of the same material but are of different shapes.



Kettle A Kettle B Kettle C

Layla poured the same amount of water into each kettle and measured the time taken for the water in each kettle to boil.

The results are as shown in the result table below.

	(a)(i) Kettle ____	(a)(ii) Kettle ____	Kettle A
Time taken for water to boil (minutes)	10	6	3

(a) Based on the information above, write down kettle 'B' or 'C' in the correct boxes (a)(i) or (a)(ii), in the result table. [1]

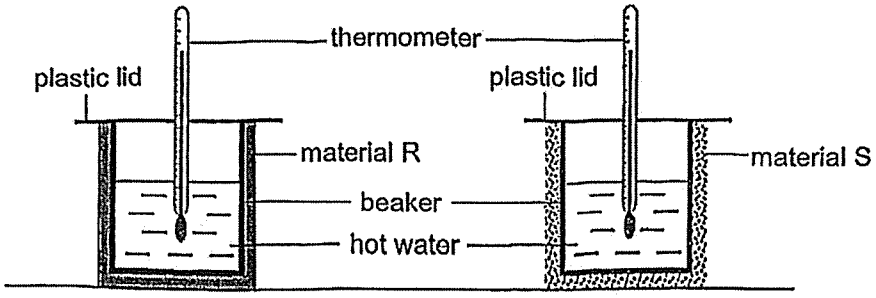
(b) Explain why the water in kettle A took the shortest time to boil. [2]

_____

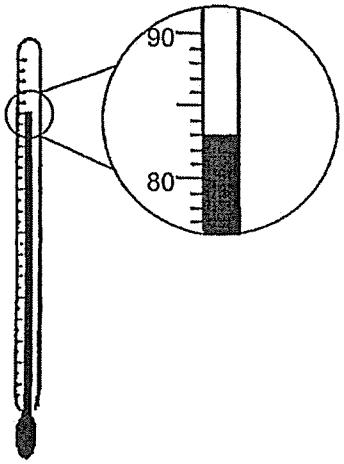
_____

Score	3

8. Annie conducted an experiment using set-ups P and Q. She wrapped identical beakers with materials R and S, in set-ups P and Q as shown in the diagram. Then, she filled both beakers with the same volume of hot water at the same temperature, T.



The diagram below shows the temperature, T, of the hot water in both set-ups.



(a) What is the reading shown on the thermometer? [1]

_____

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Score	/ 1

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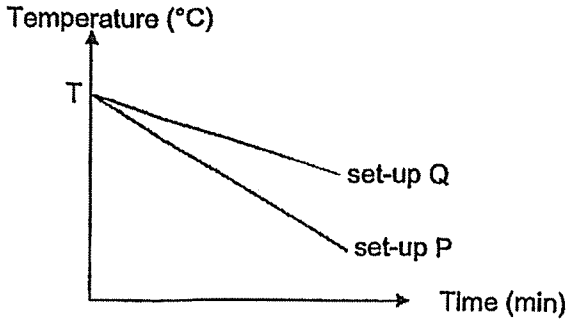
Annie recorded the change in temperatures of the water in both beakers in the graph shown.



(b) Based on the graph, state the change in temperature of water in the beakers over time. [1]

(c) Which material, R or S, should Annie use to make an ice-cream box to store ice-cream? Explain your answer. [2]

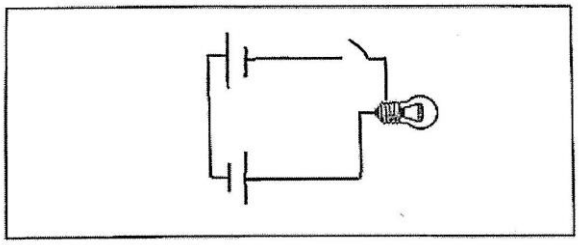
End of Paper

Score	3

SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : 2025 WEIGHTED ASSESSMENT 1

<table>
<tr><td>Q1</td><td>a) i) exhaled ii) inhaled
b) water vapour.</td></tr>
<tr><td>Q2</td><td>a) leaf B and D.
b) The amount of oxygen will decrease. Leaf D will take in the oxygen in the plastic bag for respiration.
c) The cooler of the iodine solution would remain brown. As the leaf was covered in black paper and was not able to trap light. When the plant is not able to trap light, no food is made as photosynthesis cannot occur. Hence, no food / glucose was produced and converted into starch and stored in the leaf.</td></tr>
<tr><td>Q3</td><td>a) So that light from other light sources will not affect the results of the experiment, allowing this to be a fair test.
b)
<table>
<tr><th>Variables</th><th>Dependent / Measured Variable(s)</th><th>Constant Variable / Variable to keep the same</th></tr>
<tr><td>Amount of water</td><td></td><td>✓</td></tr>
<tr><td>Type of water plant</td><td></td><td>✓</td></tr>
<tr><td>Height (h) in boiling tube after five minutes</td><td>✓</td><td></td></tr>
<tr><td>Distance (d) between the lamp and the beaker</td><td></td><td>✓</td></tr>
<tr><td>Amount of carbon dioxide in the water at the start of the experiment</td><td></td><td>✓</td></tr>
</table>
c) oxygen</td></tr>
<tr><td>Q4</td><td>a) 20 minutes
b) 20c
c) Evaporation takes place only on the surface of the water but boiling takes place throughout the water.</td></tr>
<tr><td>Q5</td><td>a) The water in the beaker gained heat from the Bunsen burner, and evaporated into water vapour. The water vapour came into contact with the cooler surface of the trays lost heat and condensed into water droplets, which will drip into beakers S and T.</td></tr>
</table>

<table>
<tr><td></td><td>b) Line A. The rate at which water is collected is faster in line A. The temperature difference between the steam and tray is bigger, hence condensation will be faster causing more water tube collected into beakers compared to T.</td></tr>
<tr><td>Q6</td><td>a) i) Yes, I agree with Nelly. As the plastic strip is an insulator of electricity and electricity cannot pass, through the circuit, Hence, the torch will not light up as there is an open circuit.

ii)
 

b) i)
<table><tr><th>Action</th><th>Bulb L lights up</th><th>Bulb M lights up</th></tr><tr><td>Button pushed downwards</td><td>✓</td><td></td></tr><tr><td>Button is released</td><td></td><td>✓</td></tr></table></td></tr>
<tr><td>Q7</td><td>a) i) Kettle B ii) Kettle C
b) The heating element has the largest exposed surface area in contact with the water. The water in the kettle will gain heat fastest from the heating coils, heating up the water in the shortest amount of time.</td></tr>
<tr><td>Q8</td><td>a) 83°C
b) Set-up decreased in temperature faster than Set-up Q.
c) Material S. Temperature of water inset-up Q decreased slower than temperature of water in set-up R. Hence, materials S is a poorer conductor of heat. Annie should use S to make into an ice cream, keeping the ice cream cold for a longer period of time.</td></tr>
</table>