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.

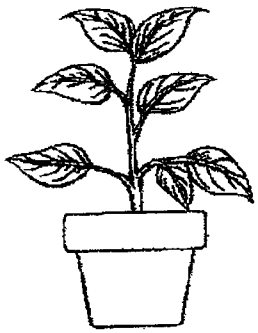


Diagram X

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.

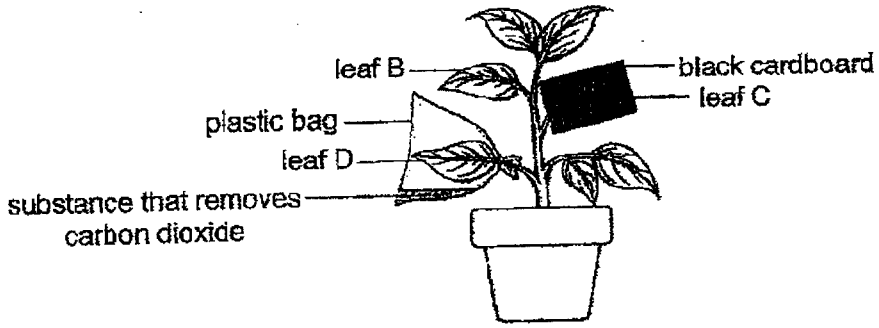


Diagram Y

(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]

_____

_____

Score	2

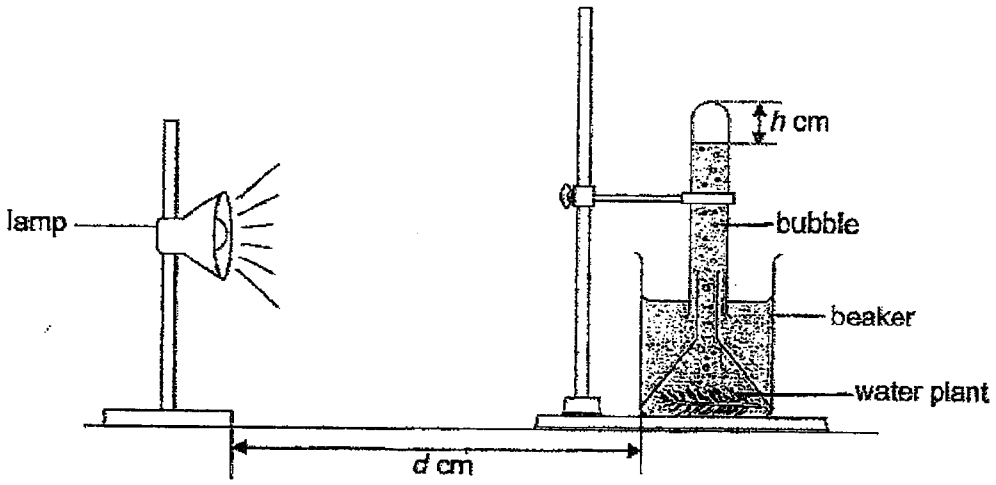
Continue on page 3

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]

Continue on page 4

Score / 3

Continued from page 3

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

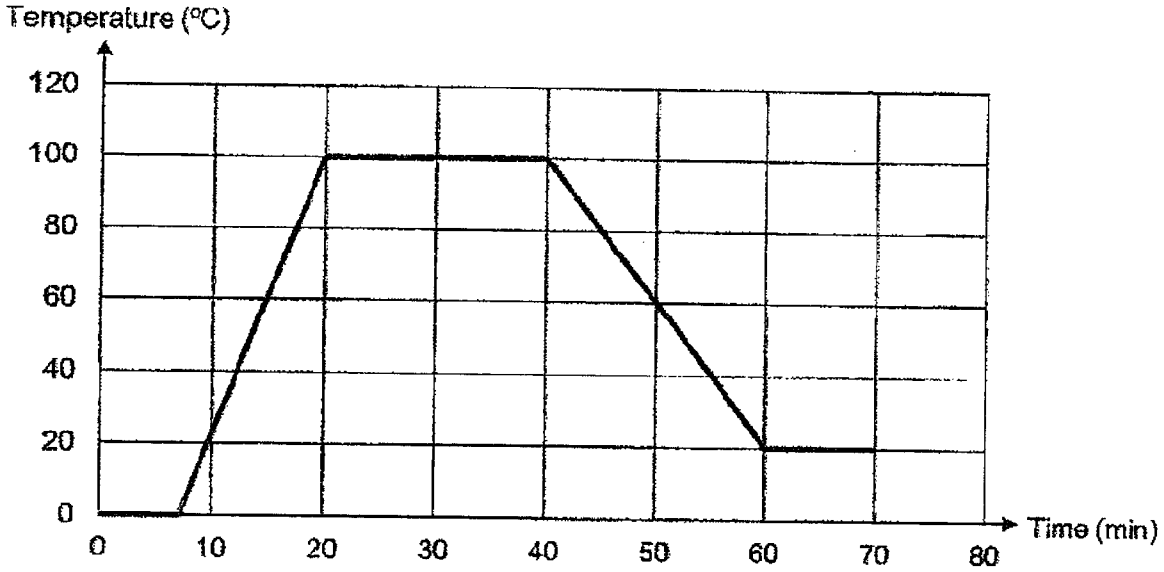
Variables	Dependent / Measured Variable(s)	Constant Variable / Variable to keep the same
Amount of water		
Type of water plant		
Height (*h*) in boiling tube after five minutes		
Distance (*d*) between the lamp and the beaker		
Amount of carbon dioxide in the water at the start of the experiment		

(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:

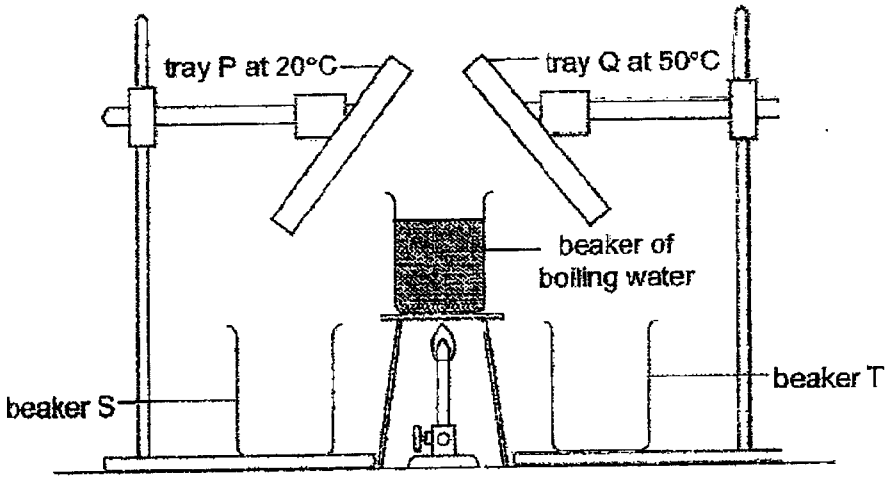
(a) When did boiling start? [1]

(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.



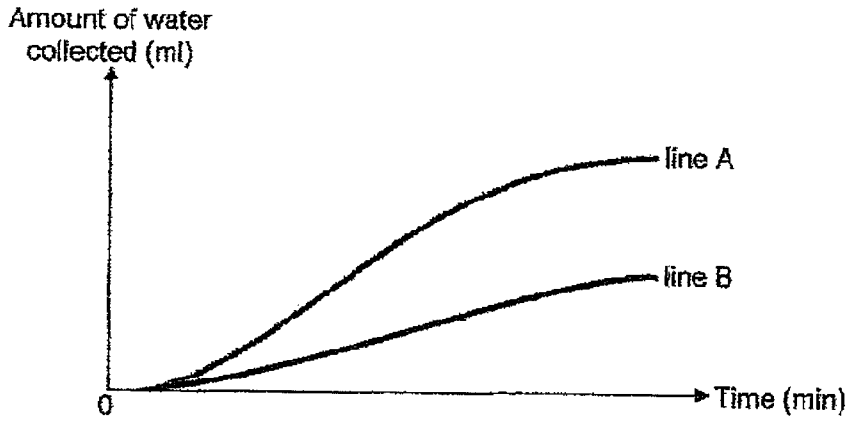
(a) Describe how water was collected in both beakers, S and T. [2]

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.



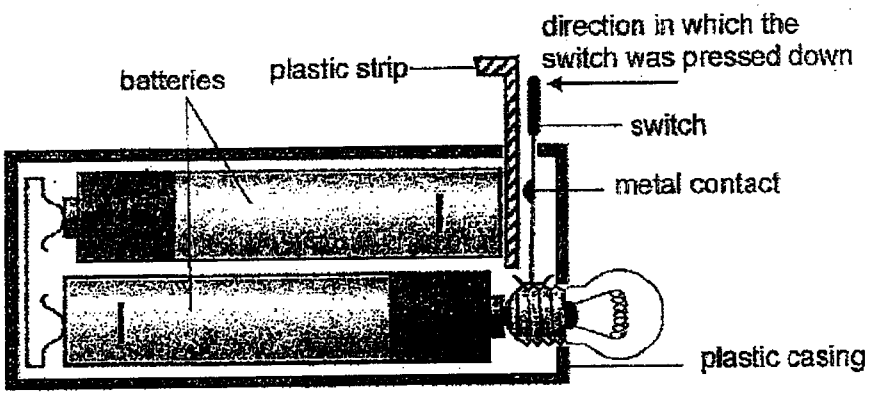
(b) Which line, A or B, shows the amount of water collected in beaker S? Explain your answer. [2]

_____

_____

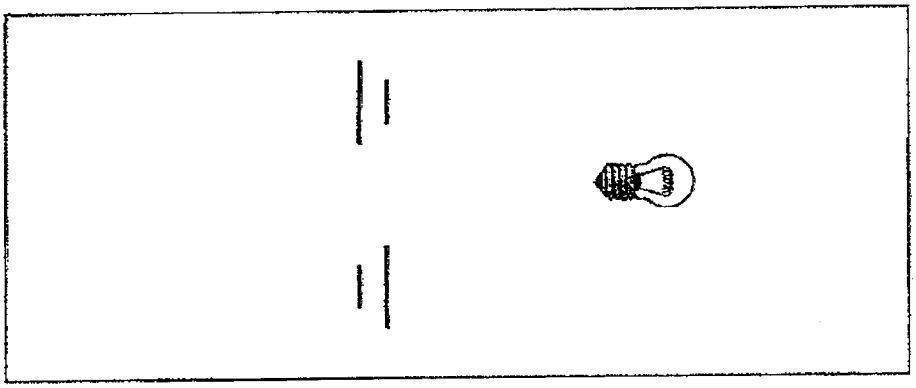
Score	2

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.



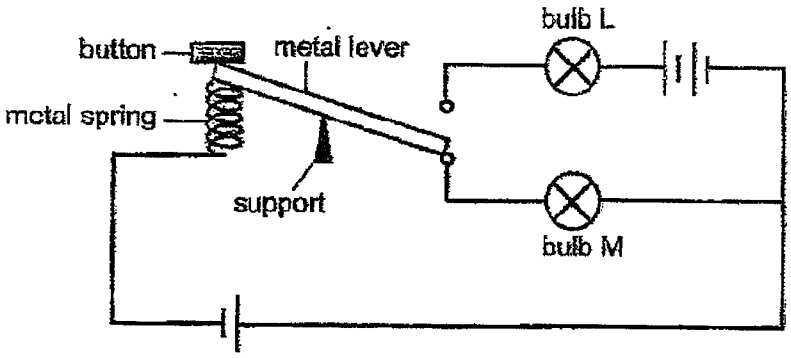
(ii) Complete the circuit diagram above by using one switch and some wires so that the torch will light up. [1]

Continue on page 9

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		

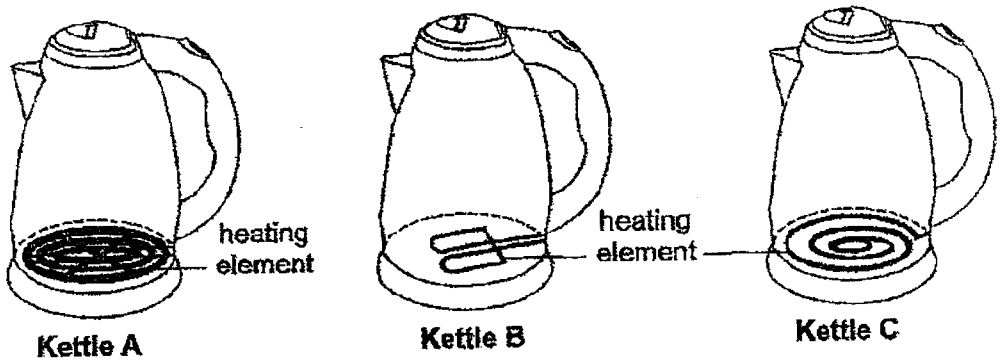
(ii) Explain why the spring and the lever need to be made of metal. [1]

_____

_____

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.



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]

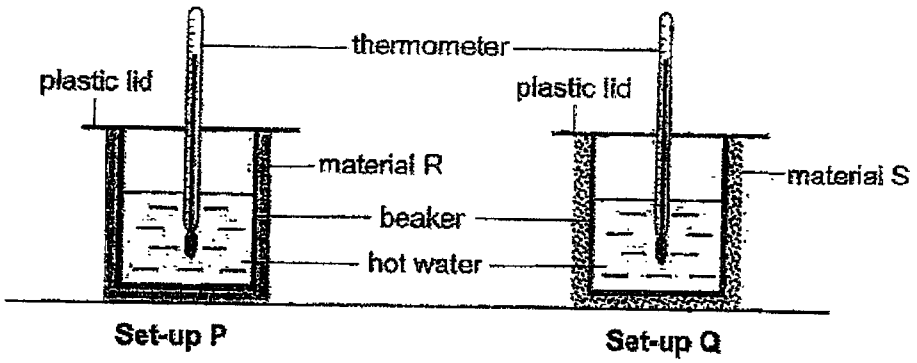
(b) Explain why the water in kettle A took the shortest time to boil. [2]

_____

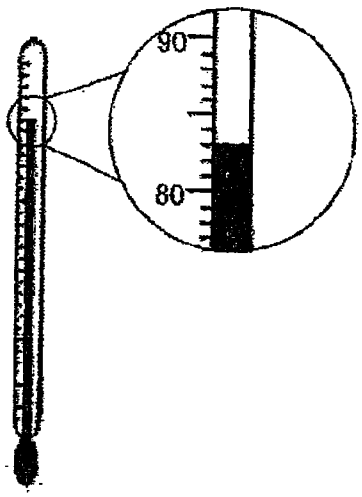
_____

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]

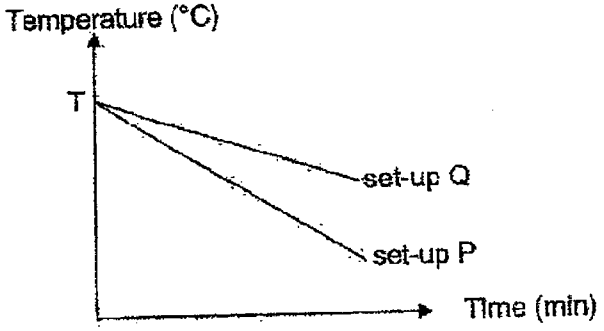
_____

Continue on page 12

Score	/ 1

Continued from page 11

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]

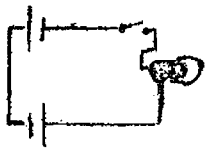
(c) Which material, R or S, should Annie use to make an ice-cream box to store ice-cream? Explain your answer. [2]

End of Paper

Score	3

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

<table>
<tr><td>Q1</td><td>a)</td><td>(i) exhaled
(ii) inhaled</td></tr>
<tr><td></td><td>b)</td><td>Water vapour</td></tr>
<tr><td>Q2</td><td>a)</td><td>Leaves B and D</td></tr>
<tr><td></td><td>b)</td><td>The amount of oxygen in the plastic bag will decrease. Leaf D's stomata cannot take in carbon dioxide as carbon dioxide taken in by substance, thus cannot photosynthesis, so will not give out oxygen. Leaf D will also respire to take in oxygen, thus oxygen in plastic bag decreases.</td></tr>
<tr><td></td><td>c)</td><td>The colour of iodine will remain brown. Black cardboard covering leaf C, thus no light can pass through. Hence, Leaf C's chlorophyll cannot trap any light, and will not photosynthesis to make sugar, no sugar and convert it to no starch.</td></tr>
<tr><td>Q3</td><td>a)</td><td>It ensures that no other light source other than from the lamp would be received by the plant.</td></tr>
<tr><td></td><td>b)</td><td>
<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>
</td></tr>
<tr><td></td><td>c)</td><td>Oxygen</td></tr>
<tr><td>Q4</td><td>a)</td><td>20 minutes</td></tr>
<tr><td></td><td>b)</td><td>20°C</td></tr>
<tr><td></td><td>c)</td><td>Boiling takes place throughout water while evaporation only takes place at the surface of the water.</td></tr>
<tr><td>Q5</td><td>a)</td><td>When the water in the beaker was heated, it boiled and formed water vapour. The water vapour rose and touched the trays, where it cooled and changed back into water droplets. The droplets then dripped down from the trays and were collected in beakers S and T.</td></tr>
</table>

	b)	The rate at which water is collected is faster in Line A. The temperature difference between the steam and Tray P is bigger. Hence the rate of condensation will be faster causing more water to be collected in beaker compared to beaker T.
Q6	a)	(i) Yes. The plastic strip prevents the metal contact from touching the battery, which breaks the circuit. When the plastic strip is removed, the metal contact can touch the battery, allowing electricity to flow and the bulb to light up when the switch is pressed. (ii) 
	b)	(i) Button pushed downwards : Bulb L lights up Button is released : Bulb M lights up (ii) Metal is a conductor of electricity, thus connected to wire, can form a closed circuit that allows electric current to pass through the circuit for bulb to light up.
Q7	a)	(i) Kettle B (ii) Kettle C
	b)	The healing 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 time.
Q8	a)	83°C
	b)	When the time increases, the temperature of the water in beakers decreases.
	c)	Material S. Temperature of water in Set-up Q decreases slower than P. Hence, Material S is a poorer conductor of heat, so when made into ice-cream box, material S will conduct heat from surrounding air outside ice-cream box to ice-cream box to ice-cream slower for ice-cream to melt slower.

END