

KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT**2026****INTEGRATED SCIENCE****Paper 2 - Prediction 4****905/2 Time: 1 hour 30 marks**

Name

Assessment number

School

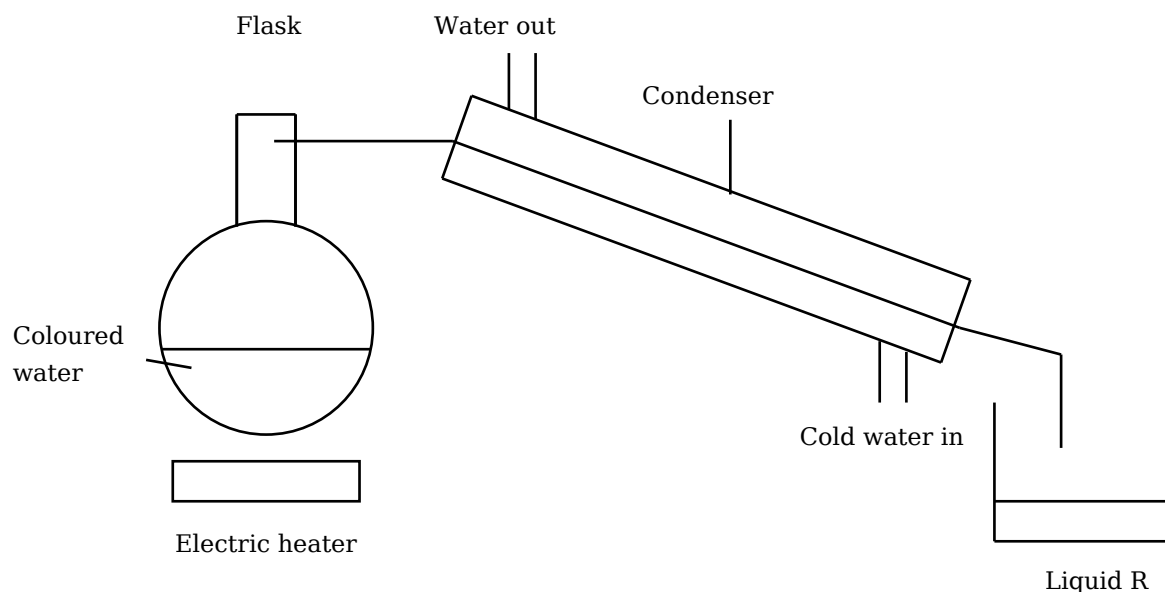
INSTRUCTIONS TO CANDIDATES

1. Answer all three questions. Each question carries 10 marks.
2. Use the diagrams and experimental results provided.
3. Write your answers in the spaces provided. Show all necessary working.
4. Use a ruler and a non-programmable calculator where necessary.
5. Print on A4 at 100% actual size. Do not use Fit to page.
6. Record measurements to the nearest millimetre and include units.
7. Take gravitational field strength as 10 N/kg.

Diagrams are not drawn to scale unless otherwise stated.

QUESTION ONE (10 marks)

A learner prepares a homogeneous mixture by stirring a small amount of water-soluble food colouring into water. The teacher uses the apparatus shown to recover clear water from the mixture. The colouring does not evaporate under these conditions.



(a) Name the solvent in the original mixture. (1 mark)

(b) State two observations expected as heating continues and liquid R collects. (2 marks)

(c) Why would ordinary filter paper fail to remove the dissolved colouring? (1 mark)

(d) Name the separation method shown. (1 mark)

Question One continued

(e) Describe the two changes of state by which water moves from the flask to the collecting container. (2 marks)

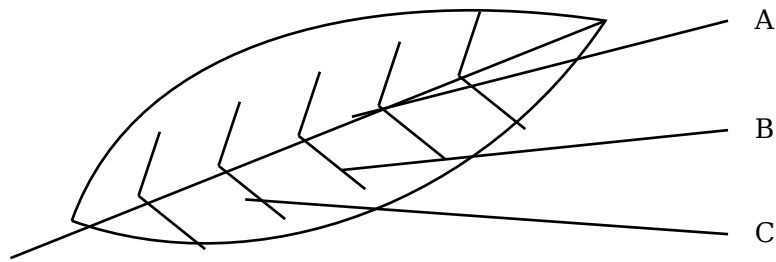
(f) Explain why cold water is passed through the condenser. (1 mark)

(g) State one precaution when handling the flask after heating. (1 mark)

(h) Is the separation a physical or a chemical process? (1 mark)

QUESTION TWO (10 marks)

A learner examines the fresh green leaf shown and investigates photosynthesis in pondweed.

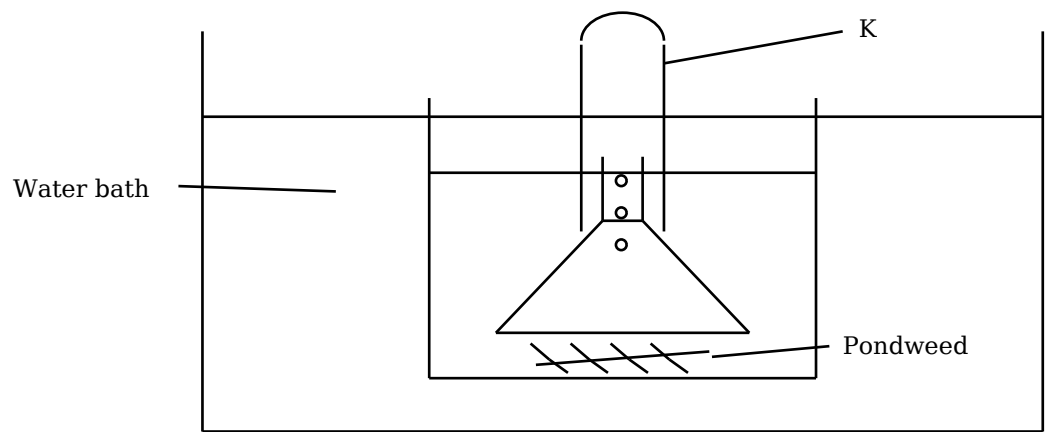


(a) Name the leaf parts labelled A, B and C. (3 marks)

(b) State three observable features of the leaf that help it carry out photosynthesis. (3 marks)

For the investigation, the learner places the pondweed under a funnel in a solution that supplies dissolved carbon dioxide. An inverted water-filled tube collects the gas. A water bath maintains each selected temperature. The same pondweed, lamp distance and solution concentration are used throughout. At each temperature, the learner waits for conditions to stabilise before counting bubbles for one minute.

Question Two continued



Lamp kept at a fixed distance (not shown)

(c)(i) Name apparatus K. (1 mark)

(ii) The results below show bubble counts per minute.

Temperature / °C	Trial 1	Trial 2	Trial 3	Mean
15	8	9	10	9
20	14	15	16	15
25	20	22	21	L
30	26	27	28	27
35	23	25	24	24

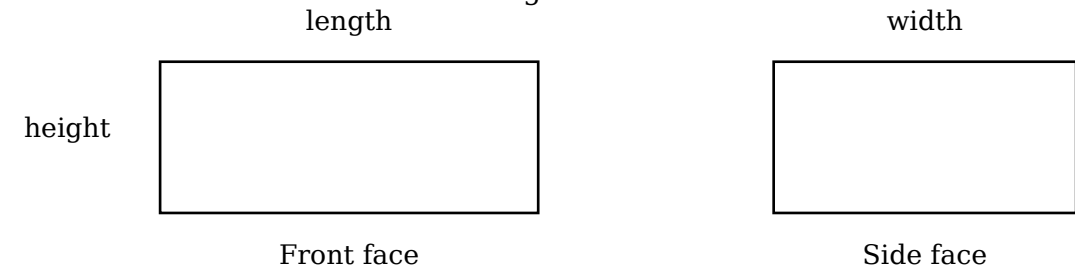
Calculate the value of L. (1 mark)

(iii) At which temperature was the highest mean bubble count recorded? (1 mark)

(iv) State the relationship between temperature and the rate of photosynthesis over the range 15 °C to 30 °C. (1 mark)

QUESTION THREE (10 marks)

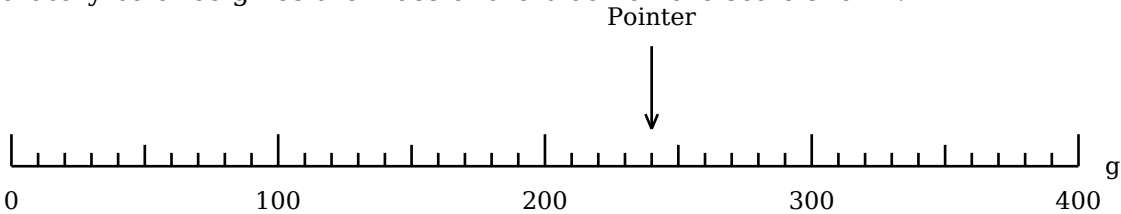
The front and side faces of a rectangular solid block are drawn at actual size. Use the outlines of the faces when measuring. Print on A4 at 100% actual size.



(a) Using a ruler, measure the length, width and height in centimetres. (3 marks)

Dimension	Measurement / cm
Length	
Width	
Height	

(b) A laboratory balance gives the mass of the block on the scale shown.



(i) Read and record the mass in grams. (1 mark)

(ii) Convert the mass to kilograms. (1 mark)

Question Three continued

(c) Calculate the weight of the block. Use $\text{weight} = \text{mass} \times \text{gravitational field strength}$ and take gravitational field strength as 10 N/kg . (2 marks)

(d) Calculate the maximum pressure the block can exert on a horizontal surface. Give your answer in N/cm^2 . Use $\text{pressure} = \text{force} \div \text{contact area}$. (3 marks)

END OF EXAMINATION PAPER