### THE KENYA NATIONAL EXAMINATION AND ASSESSMENT PREDICTION SERIES

Candidate's Name	Assessment Number	
School Name	School Code	
Candidate's Signature	Date	

# **KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT**

805/2: INTEGRATED SCIENCE ( <i>Practical</i> )	and the second
PAPER 2	
TERM 2 END-TERM 2025	C H
TIME: 1 hour 30 minutes	
INSTRUCTIONS TO CANDIDATES	
<ol> <li>Write your name and assessment number in the spaces prov</li> <li>Write the name and code of your school in the spaces prov</li> </ol>	vided above. ided above.

- 3. Sign and write the date of the assessment in the spaces provided above.
- 4. This paper consists of 2 questions.
- 5. Answer BOTH questions in the spaces provided on this QUESTION PAPER.
- 6. Do NOT remove any page from this question paper.
- 7. Answer the questions in English.

## For official use only

Task	Task 1	Task 2	TOTAL
Question	1	2	SCORE
Maximum Score	20	10	30
Candidate's Score			

This paper consists of 4 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

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Turn over

## **QUESTION ONE (20 marks)**

You are required to use a natural indicator to test whether different solutions are acidic, basic, or neutral. You are provided with solution X (a natural indicator), and test solutions labeled A, B, C, D, and E. *Assume Solution X is prepared from red cabbage or hibiscus flowers*.

# **Procedure:**

- 1. Obtain approximately  $5 \text{ cm}^3$  of solution X.
- 2. Test a known acidic solution (like lemon juice or vinegar) with a few drops of solution X. Observe and record the colour change of the indicator in the acidic solution.
- 3. Test a known basic solution (like soap solution or baking soda solution) with a few drops of solution X. Observe and record the colour change of the indicator in the basic solution.
- 4. Test clean water with a few drops of solution X. Observe and record the colour change of the indicator in a neutral solution.
- Add a few drops of solution X to approximately 5 cm<sup>3</sup> of each of the test solutions A to E, one at a time.
   Observe and record the colour change in the Table below.
- 6. Based on the colour changes observed with known acidic, basic, and neutral solutions, draw a conclusion for each test solution (A to E) in the table.

Record your observations and conclusions in the table below. (10 marks for table)

Substance Tested	<b>Observed Colour Change with Solution X</b>	Conclusion (Acidic, Basic, or Neutral)
Known Acidic		Acidic
Known Basic		Basic
Clean Water		Neutral
Test Solution A		
Test Solution B		
Test Solution C		
Test Solution D		
Test Solution E		

(a) Name one example of a natural source from which solution X could have been prepared. (1 mark)

(b) Name one alternative solution that could be used as a known acidic solution in place of lemon juice/vinegar. (1 mark)

(c) State three basic science skills you applied during this practical activity. (3 marks)

(d) Name three laboratory apparatus necessary to carry out this practical. (3 marks)

(e) State two safety precautions you took during the practical. (2 marks)

## **QUESTION TWO (10 marks)**

You are provided with a liquid (e.g., cooking oil) and apparatus to measure its mass and volume. You are required to determine the density of the liquid.

You are provided with the following:

- a) Beaker or small container
- b) Measuring cylinder
- c) Liquid Y (e.g., cooking oil)
- d) Weighing scale or beam balance

#### **Procedure:**

- 1. Measure and record the mass of the empty beaker/container.
- 2. Using the measuring cylinder, measure approximately 40 cm<sup>3</sup> of Liquid Y and pour it into the beaker/container. Record the exact volume of Liquid Y.
- 3. Measure and record the mass of the beaker/container with Liquid Y.
- 4. Calculate the mass of Liquid Y.
- 5. Calculate the density of Liquid Y using the formula: Density = Mass / Volume.

(a) Record your measurements: (i) Mass of empty beaker/co	ontainer = g (2	2
marks) (ii) Exact volume of Liquid Y (V) =	cm <sup>3</sup> (2 marks) (iii) Mass of	
beaker/container + Liquid Y =	g (2 marks)	

(b) Calculate the mass of Liquid Y (M). Show your working. (2 marks)

(c) Calculate the density of Liquid Y. Show your working and state the units. (2 marks)