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

705/2: INTEGRATED SCIENCE (Practical)

PAPER 2

TERM 2 END-TERM 2025

TIME: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- 1. Write your name and assessment number in the spaces provided above.
- 2. Write the name and code of your school in the spaces provided 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 investigate the factors affecting the rate at which a solid dissolves in a liquid. You are provided with the following:

- a) Sugar crystals (solid A)
- *b)* Powdered sugar (solid B)
- c) Warm water (Liquid C)
- d) Cold water (Liquid D)
- *e)* Beakers (labelled 1, 2, 3, 4)
- *f*) Stirring rods
- g) Stop clock/watch

Procedure:

- 1. Add approximately 50 cm³ of cold water (Liquid D) into Beaker 1.
- 2. Add approximately 50 cm³ of warm water (Liquid C) into Beaker 2.
- 3. Add approximately 50 cm³ of cold water (Liquid D) into Beaker 3.
- 4. Add approximately 50 cm³ of warm water (Liquid C) into Beaker 4.
- 5. Carefully add one teaspoon of sugar crystals (Solid A) into Beaker 1. Stir continuously and start the stop watch immediately. Record the time taken for all the sugar crystals to dissolve.
- 6. Carefully add one teaspoon of sugar crystals (Solid A) into Beaker 2. Stir continuously and start the stop watch immediately. Record the time taken for all the sugar crystals to dissolve.
- 7. Carefully add one teaspoon of powdered sugar (Solid B) into Beaker 3. Stir continuously and start the stop watch immediately. Record the time taken for all the powdered sugar to dissolve.
- 8. Carefully add one teaspoon of powdered sugar (Solid B) into Beaker 4. Stir continuously and start the stop watch immediately. Record the time taken for all the powdered sugar to dissolve.

Record your results in the table below. (12 marks)

Beaker	Liquid Used	Solid Used	Stirring	Time taken to dissolve (seconds)
1	Cold Water	Sugar Crystals	Continuous	
2	Warm Water	Sugar Crystals	Continuous	
3	Cold Water	Powdered Sugar	Continuous	
4	Warm Water	Powdered Sugar	Continuous	

(a) Based on your results, state how temperature affects the rate of dissolution. (2 marks)

(b) Based on your results, state how particle size affects the rate of dissolution. (2 marks)

(c) Name three basic science skills you applied in this experiment. (3 marks)

(d) State one safety precaution you took during this practical activity. (1 mark)

QUESTION TWO (10 marks)

You are provided with a rock sample and some laboratory apparatus. You are required to determine the volume of the irregular rock sample.

You are provided with the following:

- a) Stone sample
- b) Measuring cylinder
- c) Water

Procedure:

- 1. Add some water into the measuring cylinder. Record the initial volume of water.
- 2. Carefully lower the rock sample into the water in the measuring cylinder until it is fully submerged.
- 3. Record the final volume of the water with the submerged rock sample.

(a) Record your measurements: (i) Initial volume of water (V ₁) =	cm ³ (2
marks) (ii) Final volume of water with rock sample $(V_2) =$	$_ cm^3 (2 marks)$
(b) Calculate the volume of the rock sample. Show your working. (3 marks)	

(c) State the principle you used to determine the volume of the irregular rock sample. (1 mark)

(d) Name two pieces of apparatus necessary for this practical activity. (2 marks)