KENYA NATIONAL EXAMINATION AND ASSESSMENT PREDICTION SERIES

ENDTERM 2 ASSESSMENT 2025

GRADE 7

INTEGRATED SCIENCE PAPER 2

MARKING SCHEME

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 cm^3 of cold water (Liquid D) into Beaker 1.
2. Add approximately 50 cm^3 of warm water (Liquid C) into Beaker 2.
3. Add approximately 50 cm^3 of cold water (Liquid D) into Beaker 3.
4. Add approximately 50 cm^3 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	**(Sample Answer: 120-180)** (3 marks)
2	Warm Water	Sugar Crystals	Continuous	**(Sample Answer: 40-70)** (3 marks)
3	Cold Water	Powdered Sugar	Continuous	**(Sample Answer: 50-90)** (3 marks)
4	Warm Water	Powdered Sugar	Continuous	**(Sample Answer: 15-30)** (3 marks)