

545/3

CHEMISTRY

Nov/Dec 2023

2 Hours: 30 Mins



MEBU EXAMINATIONS BOARD

Uganda Certificate of Lower Secondary Education

S.3 END OF YEAR ASSESSMENT 2023

CHEMISTRY

PRACTICAL

TIME: 2:30 MIN

INSTRUCTIONS:

- Attempt all items.

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1. You are provided with a solution of sodium thiosulphate, water and dilute hydrochloric acid. You are required to determine how the concentration of reactants affects the rate of the reactions.

Task

Starting with 40cm³ of 0.5m sodium thiosulphate and a constant volume of the acid (10cm), carry out four trial experiments by carrying the concentration of sodium thiosulphate solution using water as shown in the table below.

Volume of HCl (cm ³)	10cm ³	10cm ³	10cm ³	10cm ³
Volume of H ₂ O (cm ³)	0cm ³	10cm ³	20cm ³	30cm ³
Volume of sodium thiosulphate (cm ³)	40cm ³	30cm ³	20cm ³	10cm ³
Time in seconds (s)				
$\frac{1}{t}$ (s ⁻¹)				

a) Write the aim of the experiment

b) Determine the time taken for the reaction to take place.

- c) Calculate $\frac{1}{t}$ in s^{-1} and complete the table above.
- d) Plot the graph of concentration of sodium thiosulphate against $\frac{1}{t}$
- e) Determine the rate of the reaction
- f) Apart from the factor experimented above, state any other four factors that affect the rate of reactions.

*******END*******