

PRACTICAL WORK SHEET 1**GRADE 12****THE EFFECT OF CONCENTRATION ON THE RATE OF CHEMICAL REACTIONS****INSTRUCTIONS**

- Learners are required to carry out this experiment individually or in their groups.
- Each member of the group is required to participate actively in the experiment to enhance his/her skills and knowledge.
- Please respect rules of the laboratory and be cautious.
- You will be assessed on your group work skills and your procedural/manipulative skills.

AIM

To investigate the effect of concentration on the reaction rate.

PROCEDURE

NB: The concentration of the solution is the independent (controlled) variable and the rate of the reaction is the dependent variable.

Apparatus

3 x 250 ml Erlenmeyer flasks
100 ml measuring flask
10 ml measuring flask
Stopwatch (just a watch)
White paper

Chemicals

4% $\text{Na}_2\text{S}_2\text{O}_3$
dilute HCl (1:10)

Preparation of solutions:**4% $\text{Na}_2\text{S}_2\text{O}_3$**

- Weigh out 8g $\text{Na}_2\text{S}_2\text{O}_3$ in a beaker.
- Add 200 ml H_2O to it.
- Dissolve by stirring.
- Write the name of the solution on the container.

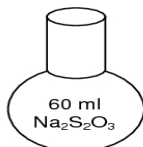
Dilute HCl (1:10)

- Add 20 ml concentrate HCl to 200 ml H_2O in a 250 ml beaker.
- Stir well.
- Name the solution.

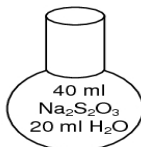
Carrying out the experiment:

- Make the following solutions:

Flask A
60 ml $\text{Na}_2\text{S}_2\text{O}_3$
0 ml H_2O



Flask B
40 ml $\text{Na}_2\text{S}_2\text{O}_3$
20 ml H_2O



Flask C
20 ml $\text{Na}_2\text{S}_2\text{O}_3$
40 ml H_2O

