

THE REACTION OF SODIUM THIOSULPHATE AND HYDROCHLORIC ACID.

Use this help sheet when you are writing up your experiment. Putting more scientific detail in your write up will give you more marks. All of the sections included on this help sheet should be included in your write up.

AIM: Write the aim of the experiment first. This should explain what you are trying to find out and should be a couple of sentences long.

SCIENTIFIC BACKGROUND: This should be about 1 A4 hand written page long and should give the science behind the experiment. Make sure you use the following keywords. Use references books, the internet and other resources to find out as much information as possible. Try to include diagrams.

- Collision theory
- Collision
- Rate of reaction
- Molecules
- Movement
- Activation energy

PREDICTION: This should be a couple of sentences long and explain what result you are expecting from the experiment. It should start 'I predict that

HYPOTHESIS: This should be based on your prediction, and use scientific theory to explain why you think you will get those results. This should be more specific to the experiment than the scientific background and should include diagrams and what you expect your results to be AND WHY! Should be **at least 1 A4** hand written page long. Include these key words

- Collision theory
- Collision
- Rate of reaction
- Molecules
- Movement
- Acid
- Base
- Salt
- Precipitation
- Measuring
- Activation Energy

APPARATUS: Include a labelled diagram or list of the apparatus that you will be using in the experiment.

MEHTOD: This should be written in instructional text in the present tense. It is much better if you write this in point form, remembering to include every detail so that some one else could repeat the experiment, e.g.

Set up the apparatus as shown in the diagram. (Figure1)
Pour 100cm³ of solution A into a beaker.

FAIR TEST: This should be at least 1 page long and include every part of the experiment that you are not going to control to make sure that it is a fair test. You need to write down **WHAT** you are going to keep the same, how you are going to do this and **WHY** it should be kept the same. More detail in this section will give you a higher mark. E.g.

1. Temperature: We will keep the temperature the same by The temperature needs to be kept the same because

SAFETY: You need to write down all the things you are going to do to make sure that the experiment is safe, and why. E.g. using safety goggles so that acid does not get in to your eyes.

RESULTS: This section should include your results (preferable in table form) and any graphs and charts that display your results. You should remember to include **UNITS** (e.g. minutes/seconds for time) in any tables. Graphs should have labelled axis, a clear title, a best –fit line (if the graph is showing a trend) and clear data points. If you have repeated any part of the experiment it is a good idea to **AVERAGE** your results (include this in **FAIR TEST**). You can do separate graphs for each set of result and then one for your average results, or include all data on 1 graph.

ANALYSIS: This section should be at least 1 A4 hand written page long and should be base entirely on your results data. You should summarise your results basing it on Your tables and graphs. Mention any trends.

CONCLUSION AND EVALUATION: This is the section that most people lose marks on. This section should explain **WHY** you got the results you did, using scientific theory to back it up. Include diagrams. You should state whether your prediction is correct or not and **WHY**. Also list any discrepancies in your results and give possible solutions if you were to repeat the experiment. Also write down any improvements and extensions to the experiment. Including all of this will get you **MUCH** better marks. **REMEMBER TO INCLUDE SCIENTIFIC THEORY.**