

**ASSESSMENT TASK NOTIFICATION**

Course: **HSC Chemistry**

<b>Task Number:</b>	1	<b>Task Type:</b>	Depth Study
<b>Task Weighting:</b>	30%	<b>Due Date:</b>	Friday, 10 March 2023 Period 2

Related Core Topics: **Module 6: Acid/Base Reactions**

Working Scientifically Syllabus Outcomes

A student:

- > develops and evaluates questions and hypotheses for scientific investigation CH11/12-1
- > conducts investigations to collect valid and reliable primary and secondary data and information CH11/12-3
- > analyses and evaluates primary and secondary data and information CH11/12-5
- > solves scientific problems using primary and secondary data, critical thinking skills and scientific processes CH11/12-6
- > communicates scientific understanding using suitable language and terminology for a specific audience or purpose CH11/12-7

Content Syllabus Outcomes

A student:

- > conduct practical investigations to analyse the concentration of an unknown acid or base by titration. CH12-13

### **TASK DESCRIPTION:**

Depth Study: Volumetrically determining concentration of unknown solutions.

A depth study is any type of investigation/activity that a student completes individually or collaboratively. It allows the further development of one or more concepts found within or inspired by the syllabus.

Depth studies provide opportunities for students to pursue their interests in chemistry, acquire a depth of understanding, and take responsibility for their own learning.

In this depth study students will develop their skills in all aspects of volumetric analysis to determine the concentrations of a variety of unknown substances in solution.

These may include strong acid-weak base, weak acid -strong base and strong acid-strong base titrations. Other more complex examples such as back titrations, using pH probes titrations, conductivity curve titrations and redox titrations.

This task will form 10 hours of depth study- 5 hours will be completed (non- assessable) later in Term 1.

Class time will be allocated in week 4, 5 and 6 of Term 1 to work on this task.

### **ASSESSMENT OF THE DEPTH STUDY:**

- *Individually carry out a titration, to analyse the concentration of an unknown acid or base.*

*This includes:*

- *Designing and carrying out a valid procedure that allows for the reliable collection of data.*
- *Using appropriate technologies to ensure accuracy.*
- *Employ and evaluate safe work practices and manage risks.*
- *Processing appropriate qualitative and quantitative data*
- *Solving scientific problems using the primary data gathered*



## Marking Criteria

CONTENT	AVAILABLE MARKS	ACTUAL MARKS
Carrying out the titration following the correct procedure.	10	
Measuring and recording results in recognisable forms, including repeat trials	5	
Identify and apply mathematical formulae and concepts.	5	
Accuracy of measurements and calculations	5	
Using safe work practices	5	
<b>Total Available Marks</b>	<b>30</b>	<b>/30</b>

Please refer to the following document for Assessment Guidelines:

- Kingscliff High School website at: "School Years" – [https://kingscliff-h.schools.nsw.gov.au/content/dam/doi/sws/schools/k/kingscliff-h/download-box/Year\\_12\\_Assessment\\_Overview\\_2023.pdf](https://kingscliff-h.schools.nsw.gov.au/content/dam/doi/sws/schools/k/kingscliff-h/download-box/Year_12_Assessment_Overview_2023.pdf)