



YEAR 12 Chemistry

Acidic Environment

Due Date: Tuesday 13 th March 2018	Assessment Name: Acidic Environment – First Hand Investigation
Mark: /39	Weighting: 30 %

SYLLABUS OUTCOMES TO BE ASSESSED:

- H9. **Analyses** stoichiometric relationships
- H11. **Justifies** the appropriateness of a particular investigation plan
- H12. **Evaluates** ways in which accuracy and reliability could be improved in investigations
- H13. **Uses** terminology and reporting styles appropriately and successfully to communicate information and understanding
- H14. **Assesses** the validity of conclusions from gathered data and information

DIRECTIVES TO BE ASSESSED:

Analyses: Identify components and the relationship between them; draw out and relate implications

Justifies: Support an argument or conclusion

Evaluates: Make a judgment based on criteria; determine the value of

Uses: Utilises

Assesses: Make a judgment of value, quality, outcomes, results or size

TASK DESCRIPTION:

- Prepare a primary standard for a titration.
- **Use** the primary standard to standardise a secondary standard.
- **Use** the secondary standard to titrate an unknown solution.
- Collect all necessary data to calculate the concentration of the unknown.
- Include chemical equations for all reactions.
- **Justify** the use of procedures and indicators.
- **Evaluate** your procedure and suggest improvements.
- **Assess** the reliability and accuracy of collected data and conclusions.
- **Use** the correct language and reporting style to clearly communicate your findings.

ASSESSMENT CRITERIA – STUDENT CHECKLIST:

You will be assessed on your ability to:

- The chemical analysis will be completed in class.
- You will need to come prepared knowing the procedures to correctly complete the task.
- You will be provided with a template on which to complete your data collection and calculations.

MARKING GUIDELINES

H9: Analyses stoichiometric relationships

Description	Possible Mark	Actual Mark
Writes full balanced equations in high detail and correct for ALL reactions.	5 - 7	
Writes full equations in detail with minimal mistakes for MOST equations	2 - 4	
No explanation and/or incorrect equations	0 - 1	

Description	Possible Mark	Actual Mark
Demonstrates a detailed and accurate knowledge of the stoichiometry (calculations) involved in these acid-base titrations	5 - 7	
Demonstrates a knowledge of the stoichiometry (calculations) involved in acid-base titrations	2 - 4	
Demonstrates an understanding of the formulas needed to calculate the stoichiometry (calculations) of the titrations	0 - 1	

H11: Justifies the appropriateness of a particular investigation plan

Description	Possible Mark	Actual Mark
Designs and justifies the appropriateness of the steps undertaken to carry out the acid-base titration	4 - 5	
Designs and explains an appropriate plan to carry out an acid-base titrations	2 - 3	
Designs a plan to carry out an acid-base titration	0 - 1	

H12: Evaluates ways in which accuracy and reliability could be improved in investigations using the gathered data and expected results.

Description	Possible Mark	Actual Mark
Using practical and expected results, identifies and evaluates ways in which accuracy and reliability could be improved in the acid-base titration	4 - 5	
Using practical and expected results, identifies and describes ways in which accuracy and reliability could be improved in acid-base titrations	2 - 3	
Acknowledges that accuracy and reliability could be improved in acid-base titrations	0 - 1	

H13: Uses terminology and reporting styles appropriately and successfully to communicate information and understanding

Description	Possible Mark	Actual Mark
Report is presented in correct scientific method. Use terminology and presenting styles that successfully communicates information and understanding. The scientific method is written in the correct tense.	9 - 10	
Report is presented in correct scientific method, using terminology and presentation style that successfully communicates some information and understanding.	6 - 8	
Report is written in a scientific method, using some terminology that communicates little information and understanding	3 - 5	
A basic report is presented	1 - 2	

H14. Assesses the validity of conclusions from gathered data and information

Description	Possible Mark	Actual Mark
Demonstrates thorough justification of all information, data and conclusions	4 - 5	
Demonstrates sound justification of some information, data and/or conclusions	2 - 3	
Demonstrates limited justification of information, data and/or conclusions	0 - 1	