# ORANGE HIGH SCHOOL

## ASSESSMENT TASK NOTIFICATION

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|---|---|
| **Subject** | Chemistry |
| **Year** | 12 (Higher School Certificate) |
| **Task** | Number 2 (90 minute In-class titration practical test) |
| **Weighting** | 20% |
| **Teacher** | Mr Routh |
| **Head Teacher** | Mr Shea |
| **Date given** | Friday the 1st of March 2021 – Week 6B Term 1 |
| **Date and school week** | Friday the 26th of March 2021 – Week 9A Term 1<br>Completed in class:<br>- calculations and HSC style questions<br>- practical to collect data |

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### Assessment Outline

**Class Test**

- Students will sit an in-class 90-minute test based on the syllabus content and skill points from the next page
- Students will be tested on their knowledge and how they can apply their researched information in given HSC style examination questions.
- Students will need to conduct a titration practical during the 90 minutes in small groups to collect data. This data will be used in their calculations.

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### Non-completion of Task:

If you know you are going to be away on the day that the task is due, you must make alternative arrangements with your classroom teacher. If you are away on the day of the examination, you must catch up with your classroom teacher on the first day you return to make alternate arrangements to catch up on this task.

### Failure to follow the above procedures may result in a zero award.

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### Outcomes Assessed

**CH12 – 3** Conducts investigations to collect valid and reliable primary and secondary data and information
**CH12 – 4** Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media
**CH12 – 5** Analyses and evaluates primary and secondary data and information
**CH12 – 6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes
**CH12 – 13** Describes, explains and quantitatively analyses acids and bases using contemporary models

**Task 2: Titration of an unknown acid with a base that has been standardized.**

Your preparation research will address the following syllabus content and skill statements:

- Calculate pH, pOH, hydrogen ion concentration ($[H^+]$) and hydroxide ion concentration ($[OH^-]$) for a range of solutions.

- Conduct practical investigations to analyse the concentration of an unknown acid or base by titration.

- Calculate the pH of the resultant solution when solutions of acids and/or bases are diluted or mixed.

- Employ and evaluate safe work practices and manage risks.

- Use appropriate technologies to ensure and evaluate accuracy.

- Apply quantitative processes where appropriate.

- Assess the relevance, accuracy, validity and reliability of primary and secondary data and suggest improvements to investigations.

- Use scientific evidence and critical thinking skills to solve problems.

- Select and apply appropriate scientific notations, nomenclature and scientific language to communicate in a variety of contexts.

**Marking Rubric:** Titration in-class test                                          NAME: _____

| Mark and Grade | Overview |
|---|---|
| A<br>50 – 45<br>(Extensive) | • Demonstrates an extensive knowledge and understanding of scientific concepts, including complex and abstract ideas<br>• Communicates scientific understanding succinctly, logically, and consistently using correct and precise scientific terms and application of nomenclature in a variety of formats and wide range of contexts<br>• Designs and plans investigations to obtain accurate, reliable, valid and relevant primary and secondary data, evaluating risks, mitigating where applicable, and making modifications in response to new evidence<br>• Selects, processes, and interprets accurate, reliable, valid, and relevant qualitative and quantitative, primary or secondary data, and represents it using a range of scientific formats to derive trends, show patterns and relationships, explain phenomena, and make predictions<br>• Applies knowledge and information to unfamiliar situations to propose comprehensive solutions or explanations for scientific issues or scenarios |
| B<br>44 – 39<br>(Thorough) | • Demonstrates thorough knowledge and understanding of scientific concepts, including complex and abstract ideas<br>• Communicates scientific understanding, logically, and effectively using correct scientific terms and application of nomenclature in a variety of formats and wide range of contexts<br>• Designs and plans investigations to obtain accurate, reliable, valid and relevant primary and secondary data, evaluating risks, mitigating where applicable, and making some modifications in response to new evidence<br>• Selects, processes, and interprets accurate, reliable, valid, and relevant qualitative and quantitative, primary or secondary data, and represents it using a range of scientific formats to derive trends, show patterns and relationships<br>• Applies knowledge and information to unfamiliar situations to propose explanations for scientific issues or scenarios |
| C<br>38 – 18<br>(Sound) | • Demonstrates sound knowledge and understanding of scientific concepts<br>• Communicates scientific understanding effectively using scientific terms and application of nomenclature<br>• Designs and plans investigations to obtain primary and secondary data and evaluates risks<br>• Processes and interprets primary and secondary data, and represents it using a range of scientific formats<br>• Applies knowledge and information relevant to scientific issues or scenarios |
| D<br>17 – 7<br>(Basic) | • Demonstrates basic knowledge and understanding of scientific concepts<br>• Communicates scientific understanding using basic scientific terms and application of nomenclature<br>• Implements scientific processes to obtain primary and secondary data and identifies risks<br>• Processes primary or secondary data, and represents it using scientific formats<br>• Recalls scientific knowledge and information |
| E<br>6 – 0<br>(Elementary) | • Demonstrates limited knowledge and understanding of scientific concepts<br>• Communicates scientific understanding using limited scientific terms<br>• Partially outlines investigations to obtain data and information |

| Outcomes | | | | | |
|---|---|---|---|---|---|
| CH12 – 3<br>/ 10 | CH12 – 4<br>/ 10 | CH12 – 5<br>/ 15 | CH12 – 6<br>/ 5 | CH12 – 13<br>/ 10 | Total<br>/ 50 |
| Total Grade | A<br>50 – 45 | B<br>44 – 39 | C<br>38 – 18 | D<br>17 – 7 | E<br>6 – 0 |

**Teacher Feedback:**

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