



ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	Chemistry
Year	12 (Higher School Certificate)
Task	Number 1 (Research Task and Class Test)
Weighting	20%
Teacher	Mr Routh
Head Teacher	Mr Shea
Date given	Friday the 6 th of November 2020 – Week 4B Term 4
Date and school week	Tuesday the 15 th of December 2020 – Week 10B Term 4 Part A: 5 x A4 printed sheets of research Part B: In-class test, you can use Part A during the test → All must be submitted together at the conclusion of the test.

Assessment Outline

PART A – Research

- To complete this task, you are required to plan, perform and conduct a second-hand investigation into the chemistry involved in a selection of syllabus points, supplied on the next sheet.
- Students will need to ensure that they analyse, interpret and explain the information that they have collected to an extensive level (5 x A4 printed sheets of research – size 11 minimum – not back to back)
- Students must supply a detailed bibliography
- The report must be physically submitted at the conclusion of the in-class test

PART B – Class Test

- Students will sit an in-class 45 minute test based on the syllabus points researched in Part A.
- Students will be tested on their knowledge and how they can apply their researched information in given HSC style examination questions.
- Students will use their Part A notes (5 x A4 printed sheets of research – size 11 minimum – not back to back) during the Part B section

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.

Outcomes Assessed

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 – 12 Explains the characteristics of equilibrium systems, and the factors that affect these systems

Task 1: Research Task and In-class Test

Your research will address the following syllabus content statements:

- M5 IQ1.4 Investigate the relationship between collision theory and reaction rate in order to analyse chemical equilibrium reactions
- M5 IQ2.1 Investigate the effects of temperature, concentration, volume and/or pressure on a system at equilibrium and explain how Le Chatelier's principle can be used to predict such effects for an industrial chemical process.
- M5 IQ2.3 Examine how activation energy and heat of reaction affect the position of equilibrium
- M5 IQ3.1 Deduce the equilibrium expression (in terms of K_{eq}) for an industrial chemical process.
- M5 IQ3.2 Perform calculations to find the value of K_{eq} and concentrations of substances within an equilibrium system, and use these values to make predictions on the direction in which a reaction may proceed
- M5 IQ3.3 Qualitatively analyse the effect of temperature on the value of K_{eq} .
- M5 IQ3.4 Conduct an investigation to determine K_{eq} of a chemical equilibrium system, namely the industrial chemical process. (This will be a second-hand investigation)

Examples of some industrial processes (support M5 IQ3.4) could include:

- Haber Process.
- Solvay Process, specifically the carbonator reaction.
- Production of H_2SO_4 specifically the reaction of SO_2 to SO_3

Task section	Extensive (A) 5 marks	Thorough (B) 4 marks	Sound (C) 3 marks	Basic (D) 2 marks	Elementary (E) 1 mark	Total:
M5 IQ3.4 (Research)	At an extensive level: - Content has been addressed correctly - Chemical equations correctly used - Verb has been correctly addressed - Minimum 3 / 4 page for outcome - Information is clear and logical in nature	At a through level: - Content - Chemical equations - Verb - 3 / 4 page for outcome - Logical flow of information in the research	At a sound level: - Content - Chemical equations - Verb - 3 / 4 page for outcome - Logical flow of information in the research	At a basic level: - Content - Chemical equations - Verb - 3 / 4 page for outcome - Logical flow of information in the research	At an elementary level: - Content - Chemical equations - Verb - 3 / 4 page for outcome - Logical flow of information	5
Bibliography and presentation (Research)	At an extensive level: - Reference list present and correct (10 or more sources used) - Minimal spelling, punctuation and grammatical errors present throughout - Images are included - Research does not exceed the 5-page limit - Scientific articles are used to supplement the research	At a through level: - Reference list - Spelling/ punctuation/ errors - Images - Page limit - Supplementary scientific articles	At a sound level: - Reference list - Spelling/ punctuation/ errors - Images - Page limit - Supplementary scientific articles	At a basic level: - Reference list - Spelling/ punctuation/ errors - Images - Page limit - Supplementary scientific articles	At an elementary level: - Reference list - Spelling/ punctuation/ errors - Images - Page limit - Supplementary scientific articles	5
In-class test	At an extensive level: 25 – 21 marks received	At a through level: 20 – 17 marks received	At a sound level: 16 – 9 marks received	At a basic level: 8 – 4 marks received	At an elementary level: 3 – 1 mark(s) received	25
					Total Marks:	___/65

Outcomes					
CH12 – 4 Bibliography /5	CH12 – 5 Points 1.4, 2.1 & 2.3 /15	CH12 – 6 Points 3.1, 3.2, 3.3 & 3.4 /20		CH12 – 12 In-class test /25	
Total Grade	A 65 – 56	B 55 – 44	C 43 – 15	D 14 – 6	E 5 – 0

Teacher Feedback:
