

ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	Chemistry
Year	11 (Preliminary)
Task	Number 2 (Depth Study Portfolio and Digital presentation)
Weighting	30%
Teacher	Mr. Ruwona
Head Teacher	Ms. Huggett
Date given	Tuesday the 18 th of July 2023 – Week 1A Term 3
Date and school week	Tuesday the 22nd of August 2023 – Week 6B Term 3
	Part A: Report due to the Google Classroom by 11.59 pm
	Part B: Digital presentation link submitted via Google Classroom by 11.59 pm (must
	be set to public before submission)

Assessment Outline

PART 1 - Report

- To complete this task, you are required to plan, perform and conduct both a *first-hand and second-hand investigation* into the applications and use of concentrations in Chemistry.
- Students will be required to analyse and interpret the information that they have collected.
- The report must be electronically submitted on Google Classroom by 11.59 pm (**Tuesday 22/08/23**).

PART 2 – Digital Presentation

- Students will need to convert their report into a digital visual presentation summary (students are not required to add audio).
- The digital presentation (must be a public link) must be electronically submitted via Google Classroom by 11.59 pm (must be set to public before submission **Tuesday 22/08/23**).

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

- **CH11 1** Develops and evaluates questions and hypotheses for scientific investigation.
- **CH11 5** Analyses and evaluates primary and secondary data and information.
- **CH11 6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes.
- **CH11 7** Communicates scientific understanding using suitable language and terminology for a specific audience or purpose.
- **CH11 9** Describes, applies and quantitatively analyses the mole concept and stoichiometric relationships.

Task 2: Depth Study Investigation Task

As part of the Preliminary Chemistry course, students are required to complete an investigation involving a Depth Study conducted during the course. The topics involved in the Preliminary depth study are associated with the *mole concept, concentration and molarity*.

The Task: Students are to conduct an in-depth study on the applications and use of concentrations in Chemistry. This study will be completed as both a *primary and secondary source investigation*. The findings from these investigations are to be presented in the form of a *scientific report* and a *digital presentation*.

Outcomes Assessed: This task will evaluate a student's ability in the course outcomes listed below.

Working Scientific Skills:

- **CH11 1** Develops and evaluates questions and hypotheses for scientific investigation.
- **CH11 5** Analyses and evaluates primary and secondary data and information.
- **CH11 6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes.
- **CH11 7** Communicates scientific understanding using suitable language and terminology for a specific audience or purpose.

Content:

CH11 – 9 Describes, applies and quantitatively analyses the mole concept and stoichiometric relationships.

General Information:

Due date: Tuesday 22nd of August 2023.

Length: The report produced for this assignment should not exceed **5** pages.

Format: The format should include appropriate scientific report styles, as outlined on the next page. The use of appropriate communication styles in the presentation of the report is at the discretion of the student, however, the information presented should be clear, and with appropriate scientific terminology. The digital presentation should be a summary of the report and include visuals.

Research guide:

1. The research area which you will focus on for this task is on:

Applications and Use of Concentrations

(CH11 – 9 Describes, applies and quantitatively analyses the mole concept and stoichiometric relationships)

To support their research, students need to plan and conduct a simple practical demonstration of a concept of their choice (e.g., standard solutions, dilutions, titrations, etc) and collect data (if possible). Their planning and data analysis may include calculations and balanced chemical equations.

- 2. Conduct research on the study area, remember that this is a Chemistry Task, so you need to make sure your research focuses on the chemistry involved in that study area. Use the guide below to help with your research, this is only a starting point:
 - Create some questions to assist in developing an understanding of the material being investigated.
 - Create some questions concerning the application and use of concentrations in Chemistry.
 - Analyse how this study area has changed over the last 50 years.
 - Include balanced chemical equations with states and/or calculations to demonstrate your deep understanding of the concept.
 - Describe processes and problems associated with this study topic area.
 - Must show critical planning in the form clear presentation and following a logical sequence.
 - Include images, graphs and/or other visual representations to help demonstrate a deep understanding of your chosen topic area.
 - Uses appropriate styles to present scientific information (report and digital presentation).
 - Report shows clearly defined sections.
 - Appropriate scientific terminology is used throughout the report.
 - Bibliography of information shows diverse use of a range of sources.
 - Referenced material is recorded using the correct styles.
 - Information references throughout the report show correct annotation.
 - Digital presentation shows a deep understanding of the material being presented.

Report structure:

- 1. Abstract: Summary of the overall project, completed after you have finished the report (approx. 1 -2 paragraphs)
- 2. Introduction: Gives background knowledge about the topic area (approx. 3 6 paragraphs)
- <u>3. Literature review:</u> Analyses scientific articles from Google Scholar in relation to the chosen topic area. (approx. 2 6 paragraphs)
- <u>4. Scientific question:</u> The question specifically identifies the concept that you are exploring and planning to demonstrate experimentally. (approx. 1-3 lines)
- <u>5. Scientific topic explanation:</u> Gives a detailed explanation of your chosen experimental demonstration. Calculations and balanced chemical equations may be included in this explanation. (approx. 2 4 paragraphs)
- <u>6. History of the concept:</u> Gives a detailed history of how the understanding and application of concentrations has developed over the last 50 years. (approx. 2-4 paragraphs)
- <u>7. Judgement statement</u>: Gives a clear judgement statement on the current and potential future benefits of concentration and its applications to society. (approx. 1 paragraph)
- <u>8. Reference list and appendix:</u> Detailed list of all sources used in the report (you may include diagrams in your appendix) and the digital presentation (none of these are included in the page limit).

Digital presentation structure:

- This should be a visually appealing digital presentation with images added to it.
- You must summarise each section of the report and add it to the presentation.
- Remember this is a summary of your report that gives the audience a clear understanding of your research.

Marking Rubric: Depth Study Portfolio and Digital Presentation

NAME:	
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Task	Extensive	Thorough	Sound	Basic	Elementary	Total:
section	(A)	(B)	(C)	(D)	(E)	
1.	- Extensive understanding of the scientific	- Thorough understanding of the scientific	- Satisfactory understanding of	- Basic abstract supplied	- General summary	CH11-1
Abstract	question demonstrated	question demonstrated	the scientific question	- General summary	- A couple of sentences	
710511401	- Detailed and condensed summary of the key	- Condensed summary of the key aspects	demonstrated	- History and applications of	used	
	aspects	- History and applications of the research	- General summary	the research and a couple of		
	- History and applications of the research and	and has a link to future use in society.	- History and applications of the	sentences used		
	has a link to future use in society.	- Approximately 1 -2 paragraphs in length	research and approximately 1 -2			
	- Approximately 1 -2 paragraphs in length		paragraphs in length			
	5 marks	4 marks	3 marks	2 marks	1 mark	/5
2.	- Clear and detailed explanation of the project.	- Clear explanation of the project.	- Satisfactory explanation of the	- Basic explanation of the	- Basic explanation of the	CH11-5
Introduction	- Detailed and sophisticated explanation of the	- Detailed explanation of the topic area of	project and topic area of study.	project or topic area of study.	project or topic area of	
	topic area of study.	study.	 4 relevant pieces of scientific 	- 3 relevant pieces of scientific	study.	
	- 5 or more relevant pieces of scientific	- 4 or more relevant pieces of scientific	information given. At a sound	information given.	- a relevant piece of	
	information given. At an extensive level.	information given. At a thorough level.	level.	- Attempts chemical equations	scientific information	
	- Includes correct chemical equations	- Includes correct chemical equations	- Includes chemical equations		given.	
	- Approximately 3 – 6 paragraphs in length	- Approximately 2 – 6 paragraphs in length	- 4 or less paragraphs in length			
	5 marks	4 marks	3 marks	2 marks	1 mark	/5
3.	- The research is extensive	- The research is thorough	- The research is general	- The research is basic	- The research is basic	CH11-9
Literature	- 6 or more detailed research ideas summarised.	- 5 or 6 detailed research ideas summarised.	- 3 or 4 research ideas	- 2 research ideas summarised.	- No structure to the	
review	- Extensive use of scientific journals/ papers	- Thorough use of scientific journals/ papers	summarised.	- Basic analysis of the ideas	response	
TEVIEW	used and cited	used and cited	- General use of scientific	•		
	- Detailed analysis of the ideas and linked to	- Satisfactory analysis of the ideas and linked	journals/ papers used			
	focus area	to focus area	- General analysis of the ideas			/5
	- Approximately 2 – 6 paragraphs in length	- Approximately 2 – 5 paragraphs in length	- Less than 3 paragraphs in length			
	5 marks	4 marks	3 marks	2 marks	1 mark	
4.	- The question specifically identifies the concept	hat the student is exploring.	- The question generally identifies t	he concept that the student is	- The question is basic	CH11-6
Scientific	- Approximately 1 – 3 lines in length		exploring and is approximately 1 – 3	3 lines in length		
question	3 ma	rks	2 marks		1 mark	/3
	Circa a samurah sasi sa sad alam si salamati sa	Circa a datailed and alean amplemetics of the	Circa a class and anotice of the	- General explanation of the	A simula sumla matica of	
5.	- Gives a comprehensive and clear explanation	- Gives a detailed and clear explanation of the	- Gives a clear explanation of the	•	- A simple explanation of the study topic area	CH11-6
Scientific	of the study topic area	study topic area	study topic area	study topic area		
topic	- Extensive use of critical thinking skills	- Thorough use of critical thinking skills	- Sound critical thinking skills	- Basic critical thinking skills	- Elementary critical	
explanation	demonstrated to evaluate trends, patterns	demonstrated to evaluate trends, patterns	demonstrated to evaluate trends,	demonstrated to evaluate	thinking skills	
	and relationships to draw evidence-based	and relationships to draw evidence-based	patterns and relationships to	trends, patterns and	demonstrated to draw	
	scientific conclusions	scientific conclusions	draw evidence-based scientific	relationships to draw evidence-	conclusions	/10
	- Includes correct chemical equations or	- Includes correct chemical equations or	conclusions	based scientific conclusions	- No chemical equations or	, 10
			- Includes correct chemical	- Mostly correct chemical	calculations and formula	
	calculations and formula	calculations and formula		and the second section of the second second		
	calculations and formula - Approximately 2 – 4 paragraphs in length	- Approximately 2 – 4 paragraphs in length	equations or calculations and	equations or calculations and	were used	
			equations or calculations and formula	formula used	were useu	
			equations or calculations and formula - Approximately 2 – 4 paragraphs	formula used - Less than 2 paragraphs in	were useu	
			equations or calculations and formula - Approximately 2 – 4 paragraphs in length	formula used - Less than 2 paragraphs in length		
	- Approximately 2 – 4 paragraphs in length 10 – 9 marks	- Approximately 2 – 4 paragraphs in length 8 – 7 marks	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks	formula used - Less than 2 paragraphs in length 4 – 3 marks	2 – 1 mark	CUA -
6.	 Approximately 2 – 4 paragraphs in length 10 – 9 marks Gives a detailed history of how the study area 	- Approximately 2 – 4 paragraphs in length 8 – 7 marks - Gives a detailed history of how the study	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks - General history of how the	formula used - Less than 2 paragraphs in length 4 – 3 marks - Basic history of how the study a	2 – 1 mark	CH11-7
	 Approximately 2 – 4 paragraphs in length 10 – 9 marks Gives a detailed history of how the study area has developed over the last 50 years 	- Approximately 2 – 4 paragraphs in length 8 – 7 marks - Gives a detailed history of how the study area has developed over the last 50 years	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks - General history of how the study area has developed over	formula used - Less than 2 paragraphs in length 4 – 3 marks - Basic history of how the study a last 50 years	2 – 1 mark Irea has developed over the	CH11-7
	 Approximately 2 – 4 paragraphs in length 10 – 9 marks Gives a detailed history of how the study area has developed over the last 50 years Demonstrates extensive knowledge of the 	- Approximately 2 – 4 paragraphs in length 8 – 7 marks - Gives a detailed history of how the study area has developed over the last 50 years - Demonstrates a thorough knowledge of	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks - General history of how the study area has developed over the last 50 years	formula used - Less than 2 paragraphs in length 4 – 3 marks - Basic history of how the study a last 50 years - Demonstrates a basic knowledge	2 – 1 mark Irea has developed over the	CH11-7
History of the	- Approximately 2 – 4 paragraphs in length 10 – 9 marks - Gives a detailed history of how the study area has developed over the last 50 years - Demonstrates extensive knowledge of the development of the scientific idea	- Approximately 2 – 4 paragraphs in length 8 – 7 marks - Gives a detailed history of how the study area has developed over the last 50 years - Demonstrates a thorough knowledge of the development of the scientific idea	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks - General history of how the study area has developed over the last 50 years - Demonstrates a satisfactory	formula used - Less than 2 paragraphs in length 4 – 3 marks - Basic history of how the study a last 50 years - Demonstrates a basic knowledg scientific idea	2 – 1 mark area has developed over the ge of the development of the	CH11-7
History of the	 Approximately 2 – 4 paragraphs in length 10 – 9 marks Gives a detailed history of how the study area has developed over the last 50 years Demonstrates extensive knowledge of the 	- Approximately 2 – 4 paragraphs in length 8 – 7 marks - Gives a detailed history of how the study area has developed over the last 50 years - Demonstrates a thorough knowledge of	equations or calculations and formula - Approximately 2 – 4 paragraphs in length 6 – 5 marks - General history of how the study area has developed over the last 50 years	formula used - Less than 2 paragraphs in length 4 – 3 marks - Basic history of how the study a last 50 years - Demonstrates a basic knowledge	2 – 1 mark area has developed over the ge of the development of the	CH11-7

Task	Extensive	Thorough	Sound	Basic	Elementary	Total:
section	(A)	(B)	(C)	(D)	(E)	
	Discusses the direction and implications for society in the use of this science. Gives a relevant example. Includes correct chemical equations Approximately 2 – 4 paragraphs in length	- Discusses the direction and implications for society in the use of this science. Gives a relevant example. - Includes correct chemical equations - Approximately 2 – 4 paragraphs in length	Discusses the direction and implications for society in the use of this science. Includes some correct chemical equations Approximately 3 paragraphs			/4
	4 marks	3 marks	2 marks	1 mark		
7. Judgement	Gives a clear and concise judgement statement of the study area on society Approximately 1 paragraph in length	n the current and potential future benefit of			- Gives a basic judgement statement	CH11-7
statement	3 mar	ks			1 mark	/3
8. Reference list, appendix and overall report structure	- Reference list present and correct (12 or more sources used) - Minimal spelling, punctuation and grammatical errors (2-3) - Images are included in the appendix - Follows report format extensively - Report does not exceed the 5-page limit (excluding reference list)	- Reference list present and correct (11 to 9 used) - Minimal spelling, punctuation and grammatical errors (4-6) - Images are included in the appendix - Follows report format thoroughly - Report does not exceed the 5-page limit (excluding reference list)	- Reference list present and correct (6 to 8 used) - Minimal spelling, punctuation and grammatical errors (7-12) - Follows report format satisfactorily, images in appendix - Report does not exceed the 5-page limit (excluding reference	- Reference list present (6 to 8 used) - Minimal spelling, punctuation and grammatical errors (13-18) - Attempted to follow the report format - Images are included in the appendix	- No Reference list present More than 13 errors Images are included in the appendix	CH11-7
	5 marks	4 marks	list) 3 marks	2 marks	1 mark	/5
Digital presentation	- Detailed summary of sections 1 to 8 - Is a digital presentation - Extremely visually appealing - Clearly articulates students deep	- General summary of sections 1 to 8 - Is a digital presentation - Satisfactorily visually appealing - Clearly articulates students satisfactory	- General summary of sections 1 to 8 and is a digital presentation - Satisfactorily visually appealing - Satisfactory understanding of	- Basic summary of sections 1 to 8 and is a digital presentation - Basic understanding of the	- Basic summary of sections 1 to 8 and is a digital presentation - Basic understanding of	CH11-9
	understanding of the focus area to the audience - Correct use of chemical equations - High level use of images	understanding of the focus area to the audience - Correct use of chemical equations - High level use of images	the focus area to the audience demonstrated - Chemical equations present - Satisfactory use of images	focus area to the audience demonstrated - Chemical equations attempted - Satisfactory use of images	the focus area to the audience demonstrated - Some images used	/10
	10 – 9 marks	8 – 7 marks	6 – 5 marks	4 – 3 marks	2 – 1 mark	
					Total Marks:	/50

Outcomes						
CH11 – 1		CH11 – 5	CH11 – 6 CH11 – 7		CH11 – 9	
(Section 1)		(Section 2)	(Sections 4 & 5)	(Sections 6, 7 & 8)	(Sections 3 & Digital Presentation)	
=	/ 5	= /5	= /13	= /12	=	/ 15
Total Grade		Α	В	С	D	E
		50 – 45	44 – 39	38 – 15	14 – 6	5 – 0

Teacher Feedback:		