



ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	Chemistry
Year	11 (Preliminary)
Task	Number 2 (Depth Study Portfolio and Digital presentation)
Weighting	30%
Teacher	Mr Routh
Head Teacher	Mr Shea
Date given	Thursday the 2 nd of July 2020 – Week 10B Term 2
Date and school week	Tuesday the 25 th of August 2020 – Week 6B Term 3 Part A: Report due to the Science Staffroom by 9am Part B: Digital presentation link submitted via Google Classroom by 9am (must be set to public before submission)

Assessment Outline

PART 1 – Report

- To complete this task, you are required to plan, perform and conduct a second-hand investigation into the chemistry involved in either Battery Technology or biofuel production
- Students will be required to analyse and interpret the information that they have collected
- The report must be physically submitted to the Science Staffroom by 9am (Tuesday 25/08/20)

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 9am (must be set to public before submission) (Tuesday 25/08/20)

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 – 4 Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media

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 – 11** Analyses the energy considerations in the driving force for chemical reactions (battery technology)

OR

- **CH11-10** Explores the many different types of chemical reactions, in particular the reactivity of metals, and the factors that affect the rate of chemical reactions (biofuel production)

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 either battery technology or biofuel production.

The Task: Students are to conduct an in-depth study on the role that chemistry plays in the development of modern battery technologies **OR** the mass production and use of biofuels. This study will be completed as a secondary source investigation. The findings from these investigations are to be presented in the form of a research report and a digital presentation.

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

Working Scientific Skills:

CH11 – 1 Develops and evaluates questions and hypotheses for scientific investigation

CH11 – 4 Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media

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 – 11 Analyses the energy considerations in the driving force for chemical reactions (biofuels)

OR

CH11- 10 Explores the many different types of chemical reactions, in particular the reactivity of metals, and the factors that affect the rate of chemical reactions (battery technology)

General Information:

Due date: Thursday 25th of August 2020.

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

Format: The format should include appropriate scientific reports 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 use appropriate scientific terminology. The digital presentation should be a summary of the report and include visuals.

Research guide:

1. Select the area you wish to focus on for this task:

A. Battery Technology

(CH11 – 11 Analyses the energy considerations in the driving force for chemical reactions, such as galvanic cells)

OR

B. Biofuel production

(CH11-10 Explores the many different types of chemical reactions, in particular the reactivity of metals, and the factors that affect the rate of chemical reactions, such as alcohols)

2. Conduct research on your selected area, remember that this is a Chemistry Task, so you need to make sure your research focuses on the chemistry involve in your selected 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 role of chemists in the battery or biofuel industries.
- Analyse how the chosen area has changed over the last 50 years
- Include balanced chemical equations with states to demonstrate your deep understanding of the concepts
- Describe processes and problems associated with the chosen topic area
- Concepts show critical planning in the form of presentation and follow a logic sequence
- Include images, graphs 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 clear defined sections
- Appropriate scientific terminology is used throughout the report.
- Bibliography of information shows diverse range of sources
- Referenced material is recorded using 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)

3. Literature review: Analyses scientific articles from Google Scholar in relation to the chosen topic area (approx. 2 – 6 paragraphs)

4. Scientific question: The question specifically identifies the concept that you are exploring in your research (approx. 1 – 3 lines)

5. Scientific topic explanation: Gives a detail explanation of the chosen topic area. (approx. 2 – 4 paragraphs)

6. History of the concept: Gives a detailed history of how the chosen area has developed over the last 50 years (approx. 2 – 4 paragraphs)

7. Judgement statement: Gives a clear judgement statement on the potential future benefit of the chosen area on society. (approx. 1 paragraph)

8. Reference list and appendix: 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 visual appealing digital presentation, add images 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: _____

Task section	Extensive (A)	Thorough (B)	Sound (C)	Basic (D)	Elementary (E)	Total:
1. Abstract	<ul style="list-style-type: none"> - Extensive understanding of the scientific question demonstrated - Detailed and condensed summary of the key aspects - History and applications of the research and has a link to future use in society. - Approximately 1 -2 paragraphs in length <p align="center">5 marks</p>	<ul style="list-style-type: none"> - Thorough understanding of the scientific question demonstrated - Condensed summary of the key aspects - History and applications of the research and has a link to future use in society. - Approximately 1 -2 paragraphs in length <p align="center">4 marks</p>	<ul style="list-style-type: none"> - Satisfactory understanding of the scientific question demonstrated - General summary - History and applications of the research and approximately 1 -2 paragraphs in length <p align="center">3 marks</p>	<ul style="list-style-type: none"> - Basic abstract supplied - General summary - History and applications of the research and a couple of sentences used <p align="center">2 marks</p>	<ul style="list-style-type: none"> - General summary - A couple of sentences used <p align="center">1 mark</p>	CH11-1 /5
2. Introduction	<ul style="list-style-type: none"> - Clear and detailed explanation of the project. - Detailed and sophisticated explanation of the topic area of study. - 5 or more relevant pieces of scientific information given. At an extensive level. - Includes correct chemical equations - Approximately 3 – 6 paragraphs in length <p align="center">5 marks</p>	<ul style="list-style-type: none"> - Clear explanation of the project. - Detailed explanation of the topic area of study. - 4 or more relevant pieces of scientific information given. At a thorough level. - Includes correct chemical equations - Approximately 2 – 6 paragraphs in length <p align="center">4 marks</p>	<ul style="list-style-type: none"> - Satisfactory explanation of the project and topic area of study. - 4 relevant pieces of scientific information given. At a sound level. - Includes chemical equations - 4 or less paragraphs in length <p align="center">3 marks</p>	<ul style="list-style-type: none"> - Basic explanation of the project or topic area of study. - 3 relevant pieces of scientific information given. - Attempts chemical equations <p align="center">2 marks</p>	<ul style="list-style-type: none"> - Basic explanation of the project or topic area of study. - a relevant piece of scientific information given. <p align="center">1 mark</p>	CH11-4 /5
3. Literature review	<ul style="list-style-type: none"> - The research is extensive - 6 or more detailed research ideas summarised. - Extensive use of scientific journals/ papers used and cited - Detailed analysis of the ideas and linked to focus area - Approximately 2 – 6 paragraphs in length <p align="center">10 – 9 marks</p>	<ul style="list-style-type: none"> - The research is thorough - 5 or 6 detailed research ideas summarised. - Thorough use of scientific journals/ papers used and cited - Satisfactory analysis of the ideas and linked to focus area - Approximately 2 – 5 paragraphs in length <p align="center">8 – 7 marks</p>	<ul style="list-style-type: none"> - The research is general - 3 or 4 research ideas summarised. - General use of scientific journals/ papers used - General analysis of the ideas - Less than 3 paragraphs in length <p align="center">6 – 5 marks</p>	<ul style="list-style-type: none"> - The research is basic - 2 research ideas summarised. - Basic analysis of the ideas <p align="center">4 – 3 marks</p>	<ul style="list-style-type: none"> - The research is basic - No structure to the response <p align="center">2 – 1 mark</p>	CH11-11 OR CH11-10 /10
4. Scientific question	<ul style="list-style-type: none"> - The question specifically identifies the concept that the student is exploring. - Approximately 1 – 3 lines in length <p align="center">3 marks</p>		<ul style="list-style-type: none"> - The question generally identifies the concept that the student is exploring and is approximately 1 – 3 lines in length <p align="center">2 marks</p>		<ul style="list-style-type: none"> - The question is basic <p align="center">1 mark</p>	CH11-6 /3
5. Scientific topic explanation	<ul style="list-style-type: none"> - Gives a detailed and clear explanation of the chosen topic area - Includes correct chemical equations - Approximately 2 – 4 paragraphs in length <p align="center">4 marks</p>		<ul style="list-style-type: none"> - Gives a clear explanation of the chosen topic area - Includes correct chemical equations - Approximately 2 – 4 paragraphs in length <p align="center">3 marks</p>	<ul style="list-style-type: none"> - General explanation of the chosen topic area - Mostly correct chemical equations used - Less than 2 paragraphs in length <p align="center">2 marks</p>	<ul style="list-style-type: none"> - Basic explanation of the chosen topic area - No chemical equations used <p align="center">1 mark</p>	CH11-6 /4
6. History of the concept	<ul style="list-style-type: none"> - Gives a detailed history of how the chosen area has developed over the last 50 years - Demonstrates an extensive knowledge of the development of the scientific idea - Presented it in a clear, detailed and logical manner - 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 <p align="center">5 marks</p>	<ul style="list-style-type: none"> - Gives a detailed history of how the chosen area has developed over the last 50 years - Demonstrates a thorough knowledge of the development of the scientific idea - Presented it in a clear and logical manner - 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 <p align="center">4 marks</p>	<ul style="list-style-type: none"> - General history of how the chosen area has developed over the last 50 years - Demonstrates a satisfactory knowledge of the development of the scientific idea - Discusses the direction and implications for society in the use of this science. - Includes some correct chemical equations - Approximately 3 paragraphs <p align="center">3 marks</p>	<ul style="list-style-type: none"> - Basic history of how the chosen area has developed over the last 50 years - Demonstrates a basic knowledge of the development of the scientific idea - attempts to include chemical equations - Approximately 2 paragraphs <p align="center">2 marks</p>	<ul style="list-style-type: none"> - Basic history of how the chosen area has developed over the last 50 years <p align="center">1 mark</p>	CH11-7 /5

Task section	Extensive (A)	Thorough (B)	Sound (C)	Basic (D)	Elementary (E)	Total:
7. Judgement statement	<ul style="list-style-type: none"> - Gives a clear and concise judgement statement on the potential future benefit of the chosen area on society - Approximately 1 paragraph in length <p style="text-align: center;">3 marks</p>		<ul style="list-style-type: none"> - Gives a satisfactory judgement statement on the potential future benefit of the chosen area on society - Approximately 1 paragraph in length <p style="text-align: center;">2 marks</p>		<ul style="list-style-type: none"> - Gives a basic judgement statement <p style="text-align: center;">1 mark</p>	<p>CH11-7</p> <p style="text-align: right;">/3</p>
8. Reference list, appendix and overall report structure	<ul style="list-style-type: none"> - 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) <p style="text-align: center;">5 marks</p>	<ul style="list-style-type: none"> - 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) <p style="text-align: center;">4 marks</p>	<ul style="list-style-type: none"> - 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 list) <p style="text-align: center;">3 marks</p>	<ul style="list-style-type: none"> - 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 <p style="text-align: center;">2 marks</p>	<ul style="list-style-type: none"> - No Reference list present. - More than 13 errors. - Images are included in the appendix <p style="text-align: center;">1 mark</p>	<p>CH11-7</p> <p style="text-align: right;">/5</p>
Digital presentation	<ul style="list-style-type: none"> - Detailed summary of sections 1 to 8 - Is a digital presentation - Extremely visually appealing - Clearly articulates students deep understanding of the focus area to the audience - Correct use of chemical equations - High level use of images <p style="text-align: center;">10 – 9 marks</p>	<ul style="list-style-type: none"> - General summary of sections 1 to 8 - Is a digital presentation - Satisfactorily visually appealing - Clearly articulates students satisfactory understanding of the focus area to the audience - Correct use of chemical equations - High level use of images <p style="text-align: center;">8 – 7 marks</p>	<ul style="list-style-type: none"> - General summary of sections 1 to 8 and is a digital presentation - Satisfactorily visually appealing - Satisfactory understanding of the focus area to the audience demonstrated - Chemical equations present - Satisfactory use of images <p style="text-align: center;">6 – 5 marks</p>	<ul style="list-style-type: none"> - Basic summary of sections 1 to 8 and is a digital presentation - Basic understanding of the focus area to the audience demonstrated - Chemical equations attempted - Satisfactory use of images <p style="text-align: center;">4 – 3 marks</p>	<ul style="list-style-type: none"> - Basic summary of sections 1 to 8 and is a digital presentation - Basic understanding of the focus area to the audience demonstrated - Some images used <p style="text-align: center;">2 – 1 mark</p>	<p>CH11-11 OR CH11-10</p> <p style="text-align: right;">/10</p>
					Total Marks:	___/50

Outcomes					
CH11 – 1 (Section 1) = / 5	CH11 – 4 (Section 2) = / 5	CH11 – 6 (Sections 4 & 5) = / 7	CH11 – 7 (Sections 6, 7 & 8) = / 13	CH11 – 10 OR CH11 – 11 (Sections 3 & Digital Presentation) = / 20	
Total Grade	A 50 – 45	B 44 – 39	C 38 – 15	D 14 – 6	E 5 – 0

Teacher Feedback:

