



# ORANGE HIGH SCHOOL

## ASSESSMENT TASK NOTIFICATION

<b>Subject</b>	HSC Chemistry – Assessment 2
<b>Topic</b>	Modules 5 - 8
<b>Class Teacher</b>	Mr. Ruwona
<b>Head Teacher</b>	Ms. Huggett
<b>Year</b>	12 HSC
<b>Date Given</b>	Week 3A, Term 2 Wednesday 10 <sup>th</sup> of May
<b>Date Due</b>	Week 1A, Term 3 Thursday 20 <sup>th</sup> of July (9am via Google Classroom)
<b>Weighting</b>	35%

### Assessment Outline

Students are required to produce a science style magazine. (This will allow students to deepen their knowledge of the course content). This magazine must have 5 separate double/triple pages of articles aimed at a HSC Year 12 Chemistry student. Students will research **FIVE SEPARATE** major concepts spread over all of the four Modules from the Year 12 Chemistry course (Module 5 - **Equilibrium and Acid Reactions**, Module 6 - **Acid/Base Reactions**, Module 7 - **Organic Chemistry** and Module 8 - **Applying Chemical Ideas**). ONE concept per double/triple page spread.

**Students are to describe the concept and explain the science involved in each of the concepts via an analysis. They must present this information as a double to triple page spread created as a digital product that can be printed for each concept. They must link each double to triple page spread to the content points, within the relevant Inquiry Questions from the syllabus.**

**Students will be asked to answer TWO HSC style questions and supply their responses at the back of the scientific article, before their bibliography. Students must also analyse their responses electronically in any format they wish and upload this as an attachment with their task to Google Classroom.**

For additional information, please see the attached task detail outline sheet.

### Non-completion of Task:

If you know you are going to be away on the day that the task is due, you must follow illness/misadventure procedures and make alternative arrangements with your teacher beforehand. If you are suddenly away on the day that the task is due, you must contact your teacher or Head Teacher on your return to school. Documentation will be required to support your claim for illness/misadventure.

### Plagiarism:

Plagiarism, the using of the work of others without acknowledgement will incur serious penalties and may result in zero award. Any cheating will also incur penalties.

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

**The policies and procedures that are outlined on the ROSA booklet will be followed regarding the non-completion of assessment tasks.**

### Outcomes Assessed

Working Scientific Skills:

**CH12-1** Develops and evaluates questions and hypotheses for scientific investigation

**CH12-2** Designs and evaluates investigations in order to obtain primary and secondary data and information

**CH12-6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes

**CH12-7** Communicates scientific understanding using suitable language and terminology for a specific audience or purpose

Knowledge and Understanding:

**CH12-12** Explains the characteristics of equilibrium systems, and the factors that affect these systems

**CH12-13** Describes, explains and quantitatively analyses acids and bases using contemporary models

**CH12-14** Analyses the structure of, and predicts reactions involving, carbon compounds

**CH12-15** Describes and evaluates chemical systems used to design and analyse chemical processes

## Modules – All

### Task Detail Outline Sheet

Students are required to produce a science style magazine. (This will allow students to deepen their knowledge of the course content). This magazine must have 5 separate double/triple pages of articles aimed at a HSC Year 12 Chemistry student. Students will research FIVE separate major concepts spread over all of the four Chemistry Modules from the Year 12 course (Module 5 - **Equilibrium and Acid Reactions**, Module 6 - **Acid/Base Reactions**, Module 7 - **Organic Chemistry** and Module 8 - **Applying Chemical Ideas**). **ONE concept per double/triple page spread – linked to five dot points.**

Students are to:

- Describe each of their selected scientific concepts from any of the four modules.
- Explain and analyse the science involved in each of the concepts.
- All the information needs to be converted into their own words.
- Present each concepts information as a double/triple page spread, created as a digital product that can be printed (this will include information, pictures, headings, graphs etc).
- They must link each double/triple page spread to the outcome dot points in the syllabus.
- Each concept needs to link to at least 5 different websites and/or journal articles and/or textbooks etc. **(PAGE LIMIT: 2 to 3 PAGES PER CONCEPT)**
- Students must give a detailed response to the HSC style questions supplied and record their analysis of their responses digitally from their magazine, it must be uploaded with their magazine.
- Must present an overall bibliography for the entire assessment task. (Minimum 25 resources used).
- A DIGITAL COPY OF THE TASK MUST BE SUBMITTED TO MR RUWONA VIA GOOGLE CLASSROOM BY 9 AM ON THE 20<sup>th</sup> OF JULY.**

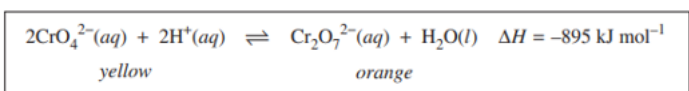
### HSC Style Questions

Please answer the following HSC style questions in your article (this must be placed between the final concept page and the bibliography section). You need to record yourself annotating your responses.

#### HSC Style Question 1:

##### Stimulus:

Consider the following equilibrium system.



The final solution is currently orange.

##### Question:

Justify TWO ways to shift the equilibrium to the left to change the colour of the solution.

#### HSC Style Question 2:

##### Stimulus:

A student at OHS has created a 250mL buffer and prepared it with acetic acid and sodium acetate. Several drops of universal indicator were then added. When small amounts of either  $0.1 \text{ molL}^{-1} \text{HNO}_3(\text{aq})$  or  $0.1 \text{ molL}^{-1} \text{KOH}(\text{aq})$  were added, no change in the colour of the solution was observed.

##### Question:

Explain these observations, using your knowledge of Modules 5 and 6. Support your answer with at least ONE chemical equation.

Name:

**Year 12 Magazine Assessment Task marking rubric – Term 3, 2023****CH12-1** Develops and evaluates questions and hypotheses for scientific investigation**CH12-2** Designs and evaluates investigations in order to obtain primary and secondary data and information**CH12-6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes**CH12-7** Communicates scientific understanding using suitable language and terminology for a specific audience or purpose**CH12-12** Explains the characteristics of equilibrium systems, and the factors that affect these systems **AND****CH12-13** Describes, explains and quantitatively analyses acids and bases using contemporary models **AND****CH12-14** Analyses the structure of, and predicts reactions involving, carbon compounds **AND****CH12-15** Describes and evaluates chemical systems used to design and analyse chemical processes

Must select 4 separate Modules to obtain the maximum possible marks. (CH12-12 to CH12-15)

Outcome and content addressed	Extensive (A)	Thorough (B)	Sound (C)	Basic (D)	Limited (E)
CH12-7	5 <ul style="list-style-type: none"> <li>Summarised the information from secondary sources in their own words</li> <li>Sophisticated language and sentences used.</li> <li>Scientific terminology is used extensively.</li> <li>Extensive understanding of the terminology seen throughout the magazine</li> <li>Terms have been explained in a way that a Year 12 student could understand.</li> </ul>	4 <ul style="list-style-type: none"> <li>Summarised the information from secondary sources in their own words</li> <li>Sophisticated language and complex sentences used.</li> <li>Scientific terminology is used thoroughly.</li> <li>Thorough understanding of the terminology seen throughout the magazine</li> <li>Terms have been explained in a way that a Year 12 student could understand.</li> </ul>	3 <ul style="list-style-type: none"> <li>Summarised the information from secondary sources in their own words</li> <li>Complex language and standard sentences used.</li> <li>Scientific terminology is somewhat used.</li> <li>Satisfactory understanding of the terminology seen throughout the magazine</li> <li>Terms have been explained in a way that a Year 12 student could understand.</li> </ul>	2 <ul style="list-style-type: none"> <li>Most of the information in their own words</li> <li>Standard language used.</li> <li>Scientific terminology present</li> <li>Basic understanding of the terminology seen in the magazine</li> </ul>	1 <ul style="list-style-type: none"> <li>Most of the information in their own words</li> <li>Standard language used.</li> </ul>
CH12-2	5 <ul style="list-style-type: none"> <li>Student have made highly effective use of written text, pictures, maps, graphs and/or graphics to communicate the information.</li> <li>Graphical representations of data are accurate and appropriate and enhance the meaning of the student's article.</li> <li>Digital technology has been implemented in a highly effective way to communicate information in a format that enhances its impact.</li> <li>Student have analysed in detail the impact of the images used</li> </ul>	4 <ul style="list-style-type: none"> <li>Student have made effective use of written text, pictures, maps, graphs and/or graphics to communicate the information.</li> <li>Graphical representations of data are accurate and appropriate and enhance the meaning of the student's article.</li> <li>Digital technology has been implemented in an effective way to communicate information in a format that enhances its impact.</li> <li>Student have analysed satisfactory the impact of the images used</li> </ul>	3 <ul style="list-style-type: none"> <li>Student have used written text, pictures, maps, graphs and/or graphics to communicate the information.</li> <li>Graphical representations of data are appropriate and enhance the meaning of the student's article.</li> <li>Digital technology has been implemented to communicate information.</li> <li>Student have analysed the impact of the images used to a sound level</li> </ul>	2 <ul style="list-style-type: none"> <li>Student have used written text, pictures, maps, graphs and/or graphics simply.</li> <li>Graphical representations of data are appropriate.</li> <li>Digital technology has been implemented to communicate information.</li> <li>Some analysis of the impact of the images used</li> </ul>	1 <ul style="list-style-type: none"> <li>Student have used written text, pictures, maps, graphs and/or graphics simply.</li> <li>Graphical representations of data are appropriate.</li> </ul>
CH12-12 <b>AND</b> CH12-13 <b>AND</b> CH12-14 <b>AND</b> CH12-15	5 <ul style="list-style-type: none"> <li>The information includes an extremely detailed outline of all <b>FIVE</b> scientific concepts</li> <li>This is supported in extreme detail by evidence from the student's research.</li> <li>Concepts from all four Modules have been researched.</li> <li>Analysis of all <b>FIVE</b> scientific concepts is extensive</li> </ul>	4 <ul style="list-style-type: none"> <li>The information includes a detailed outline of all <b>FIVE</b> scientific concepts</li> <li>This is supported in detail by evidence from the student's research.</li> <li>Concepts from all four Modules have been researched.</li> <li>Analysis of all <b>FIVE</b> scientific concepts is outstanding</li> </ul>	3 <ul style="list-style-type: none"> <li>The information includes an outline of all <b>FIVE</b> scientific concepts</li> <li>This is supported by evidence from the student's research.</li> <li>Concepts from at least 3 different modules have been researched.</li> <li>Analysis of all <b>FIVE</b> scientific concepts is satisfactory</li> </ul>	2 <ul style="list-style-type: none"> <li>The information includes a simple outline of all <b>FIVE</b> scientific concepts</li> <li>This is supported by simple evidence from the student's research.</li> <li>Concepts from at least 2 different modules have been researched.</li> </ul>	1 <ul style="list-style-type: none"> <li>Simple outline of <b>3 – 4</b> scientific concepts</li> <li>Concepts from at least 2 different modules have been researched.</li> </ul>

CH12-12 AND CH12-13 AND CH12-14 AND CH12-15	5 <ul style="list-style-type: none"> <li>Student have included information that has been retrieved from a wide variety and types of sources.</li> <li>The information is accurate and detailed as well as being relevant to the chosen concept.</li> <li>The students' bibliography demonstrates that a wide range (25) of different types of sources has been used. Eg scientific articles and websites, newspaper articles, videos.</li> <li>The sources are consistently and accurately listed following the scaffold provided with no mistakes. 25+ sources used.</li> </ul>	4 <ul style="list-style-type: none"> <li>Student have included information that has been retrieved from a variety and types of sources.</li> <li>The information is accurate and detailed as well as being relevant to the chosen concept.</li> <li>The students' bibliography demonstrates that a wide range (20) of different types of sources has been used.</li> <li>The sources are consistently and accurately listed following the scaffold provided with one mistake. 20+ sources used.</li> </ul>	3 <ul style="list-style-type: none"> <li>Student have included information that has been retrieved from a variety and types of sources.</li> <li>The information is detailed as well as being relevant to the chosen concept.</li> <li>The students' bibliography demonstrates that a wide range (15 -20) of different types of sources has been used.</li> <li>The sources are consistently and accurately listed following the scaffold provided with few mistakes. 15 - 20 sources used.</li> </ul>	2 <ul style="list-style-type: none"> <li>Student have included information that has been retrieved from a variety and types of sources.</li> <li>The information is relevant to the chosen concept.</li> <li>The sources are consistently listed following the scaffold provided with few mistakes. 5 - 14 sources used.</li> </ul>	1 <ul style="list-style-type: none"> <li>Student have included information that has been retrieved from sources.</li> <li>The information is relevant.</li> <li>The sources are listed following the scaffold provided with several mistakes. 2 - 10 sources used.</li> </ul>
CH12-1	10 – 9 <ul style="list-style-type: none"> <li>Student have explained in outstanding detail the science involved in each of the <b>FIVE</b> concepts.</li> <li>Discuss the application in society for <b>ALL</b> five concepts in great detail</li> <li>Describe possible future directions in great detail.</li> <li>Demonstrated a thorough understanding of these ideas</li> </ul>	7 – 8 <ul style="list-style-type: none"> <li>Student have explained in great detail the science involved in each of the <b>FIVE</b> concepts.</li> <li>Discuss the application in society for <b>ALL</b> five concepts in some detail</li> <li>Describe possible future directions in good detail.</li> <li>Demonstrated a satisfactory understanding of these ideas</li> </ul>	5 – 6 <ul style="list-style-type: none"> <li>Student have explained in good detail the science involved in each of the <b>FIVE</b> concepts.</li> <li>Discuss the application in society for <b>some</b> concepts satisfactory</li> <li>Discuss possible future directions in some detail</li> <li>Demonstrated a good understanding of these ideas</li> </ul>	3 – 4 <ul style="list-style-type: none"> <li>Student explains the science involved in each of the <b>FIVE</b> concepts to a simple level</li> <li>Discuss the application in society for <b>some</b> concepts</li> <li>Identify possible future directions</li> </ul>	1 – 2 <ul style="list-style-type: none"> <li>Explains the science involved in most concepts to a simple level</li> <li>Identify the application in society for <b>some</b> concepts</li> <li>Identify possible future directions</li> </ul>
CH12-5  HSC style responses and digital recording	10 – 9 <ul style="list-style-type: none"> <li>Explains the observed effect in detail</li> <li>Explains what occurs when acid and base are added</li> <li>Includes at least one correct equation and is explained in detail</li> <li>Detailed justification of TWO relevant ways to shift equilibrium to the left</li> <li>Digital analysis is submitted and of a high detail</li> <li>Analysis flows logically and is coherent</li> <li>Voice is clear and can easily be understood</li> <li>Analysis of the response is extensive</li> </ul>	7 – 8 <ul style="list-style-type: none"> <li>Explains the observed effect in some detail</li> <li>Explains what occurs when acid and base are added</li> <li>Includes at least one correct equation</li> <li>Good justification of TWO relevant ways to shift equilibrium to the left</li> <li>Digital analysis is submitted and of a satisfactory detail</li> <li>Analysis flows logically and is coherent</li> <li>Voice is clear and can easily be understood</li> <li>Analysis of the response is thorough</li> </ul>	5 – 6 <ul style="list-style-type: none"> <li>Explains the observed effect in satisfactory detail</li> <li>Explains what occurs when acid and base are added</li> <li>Includes at least one correct equation AND an attempted justification of TWO relevant ways to shift equilibrium to the left</li> <li>Digital analysis is submitted and is of a good detail</li> <li>Analysis is logical</li> <li>Voice is clear and can be somewhat understood</li> <li>Analysis of the response is satisfactory</li> </ul>	3 – 4 <ul style="list-style-type: none"> <li>Explains the observed effect in satisfactory detail</li> <li>Includes at least one equation AND attempted justification of left shift</li> <li>Digital analysis is submitted</li> <li>Analysis is satisfactory</li> <li>Voice can be somewhat understood</li> <li>Analysis of the response is limited</li> </ul>	1 – 2 <ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>
CH12-5 CH12-6	5 <ul style="list-style-type: none"> <li>Student have linked each article to the associated dot points (5+) in the syllabus.</li> <li>This must be noted on each article magazine spread.</li> <li>2 – 3 pages per concept max</li> </ul>	4 <ul style="list-style-type: none"> <li>Student have linked each article to the associated dot points (4) in the syllabus.</li> <li>This must be noted on each article magazine spread.</li> <li>2 pages per concept</li> </ul>	3 <ul style="list-style-type: none"> <li>Student have linked each article to the associated dot points (3) in the syllabus.</li> <li>Noted on a separate page.</li> <li>1 – 2 pages per concept</li> </ul>	2 <ul style="list-style-type: none"> <li>Student have linked each article to the associated dot points (2) in the syllabus.</li> <li>Noted on a separate page.</li> </ul>	1 <ul style="list-style-type: none"> <li>Student have linked each article to the associated dot point in the syllabus.</li> <li>Noted on a separate page.</li> </ul>

Grade	Outstanding	High	Sound	Basic	Limited
Mark	45 – 40 (A)	39 – 34 (B)	33 – 12 (C)	11 – 5 (D)	4 – 0 (E)

Total: / 45 (Knowledge and Understanding = 5% and Working Scientifically = 25%)

Feedback: