



ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	HSC Investigating Science
Topic	Modules 5 - 8
Class Teacher	Mr A Routh
Head Teacher	Mr P Shea
Year	12 HSC
Date Given	Week 2B Friday 8 th of May
Date Due	Week 7A Friday 12 th of June (9am via Google Classroom)
Weighting	25%

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 pages of articles (example on task detail outline sheet), aimed at a HSC Year 12 student. Students will research FIVE major concepts from at least 3 topic areas on any of the four Investigating Science Modules from the Year 12 course (Module 5 'Investigations', Module 6 'Technologies', Module 7 'Fact or Fallacy' and Module 8 'Science in society') (ONE concept per double page spread).

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

Students will be asked to answer a HSC style question and supply their response at the back of the scientific article, before their bibliography.

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

INS12-4 Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media

INS12-5 Analyses and evaluates primary and secondary data and information

INS12-6 Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes

INS12-7 Communicates scientific understanding using suitable language and terminology for a specific audience or purpose

INS12-12 Develops and evaluates the process of undertaking scientific investigations

INS12-13 Describes and explains how science drives the development of technologies

INS12-14 Uses evidence-based analysis in a scientific investigation to support or refute a hypothesis

INS12-15 Evaluates the implications of ethical, social, economic and political influences on science



Orange High School
Stage 6, Assessment Task 3, 2020
Subject: Investigating Science Year: 12

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 pages of articles (example on task detail outline sheet.), aimed at a HSC Year 12 student. Students will research FIVE major concepts from at least 3 topic areas on any of the four Investigating Science Modules from the Year 12 course (Module 5 'Investigations', Module 6 'Technologies', Module 7 'Fact or Fallacy' and Module 8 'Science in society') (ONE concept per double page spread).

Students are to:

- a) Describe the scientific concept from any of the four topics,
- b) Explain the science involved in each of the concepts.
- c) All the information needs to be converted into their own words.
- d) Present each concepts information as a double page spread, created as a digital product that can be printed (this will include information, pictures, headings, graphs etc).
- e) They must link each double page spread to the dot points in the syllabus.
- f) Each concept needs to link to at least 4 different websites, journal articles, textbooks etc. **(PAGE LIMIT: 2 to 3 PAGES PER CONCEPT)**
- g) Students must give a detailed response to the HSC style question supplied.
- h) Must present an overall bibliography for the entire assessment task. (roughly 20 resources used).
- i) **A DIGITAL COPY OF THE TASK MUST BE SUBMITTED INTO MR ROUTH VIA GOOGLE CLASSROOM BY 9AM ON THE 12TH OF JUNE.**

Planning:

1. Choose **FIVE** concepts from any of the Modules.
2. Decide how you will present your work. (Using Word, Publisher, SWAY or Google Sites etc).
3. Research your chosen concept, and write a description.
4. Investigate the science behind each concept.
5. Link the concepts to the dot points in your syllabus.
6. Find images relevant to your concepts (make sure you reference where you found your images). You might include scientific diagrams, pictures, graphs showing relevant data, graphics.
7. Start a list of all your sources (bibliography) on a separate sheet, used for this task.

Presenting (making the double article spread):

1. Your assessment must be in the form of printable digital product (eg, publisher or word).
2. On the **DUE** date you must hand in a digital version to Mr Routh via Google Classroom.
3. Use visual images to make your double spread appealing to your target audience.
4. Use scientific terminology, eg, surfactant, sinoatrial valve, biodegradability and explain what these terms mean based on your Year 12 target audience.
5. On the due date you must submit a digital copy of your article, your response to the HSC style question and a bibliography.
6. Below is an example of a double spread article featured in a Science magazine (Double Helix). – This gives you an idea of how it could look.



HSC Style Question

Please answer the following HSC style question in your article (this must be placed between the final concept page and the bibliography section)

It is widely claimed that taking Vitamin C tablets can prevent the development of the common cold.

Explain how this claim can be tested using a double-blind, placebo-controlled investigation.

You may assume that the necessary approvals to conduct the investigation have been obtained and that the safety of the participants has been considered.

Record all your sources of information using the following structure

BOOKS				
Author(s)	Date of publication in brackets	Title of book in italics	Name of publisher	
<u>Example:</u> Keay, J.	(2000).	<i>The Great Arc.</i>	Harper Collins.	
WEBSITES				
Author	Date published if available	Title of Article	Title of website in italics	From URL
	If no date available write (n.d.)			
<u>Example:</u> Landsberger, J.	(n.d.)	Citing Websites.	<i>In Study Guides and Strategies.</i>	http://www.studygs.net/citation.htm
MAGAZINES				
Author	Date	Title of Article	Name of Magazine	Volume, issue, pages
<u>Example:</u> Tumulty, K	(2006, April).	Should they stay or should they go?	<i>Time</i>	167(15), 3-40.
PERSONAL CONVERSATIONS AND EMAILS				
Person's name	Date	How you know them	Nature of communication	
<u>Example:</u> Mr B. Rock	12/7/16	Geologist and uncle	email	
VIDEOS, DVDS, TV SHOWS ETC				
Producer and writer / director or for youtube the person who uploaded video	Date	Title and type of resource	Country and company producing video / or the URL	
<u>Example:</u> Fothergill, A. (producer), Attenborough, D. (narrator).	(2005)	The Blue Planet – Coral Seas [DVD]	UK, BBC.	

Year 12 Magazine Assessment Task marking rubric – Term 2, 2020**INS12-4** Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media**INS12-5** Analyses and evaluates primary and secondary data and information**INS12-6** Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes**INS12-7** Communicates scientific understanding using suitable language and terminology for a specific audience or purpose**INS12-12** Develops and evaluates the process of undertaking scientific investigations **AND/OR****INS12-13** Describes and explains how science drives the development of technologies **AND/OR****INS12-14** Uses evidence-based analysis in a scientific investigation to support or refute a hypothesis **AND/OR****INS12-15** Evaluates the implications of ethical, social, economic and political influences on science

Must select 3 or 4 separate Modules to obtain the maximum possible marks. (INS12-12 to INS 12-15)

Outcome and content addressed	Extensive (A)	Thorough (B)	Sound (C)	Basic (D)	Limited (E)
INS12-7	<p>5</p> <ul style="list-style-type: none"> Summarised the information from secondary sources in their own words Sophisticated language and sentences used. Scientific terminology is used extensively. Terms have been explained in a way that a Year 12 student could understand. 	<p>4</p> <ul style="list-style-type: none"> Summarised the information from secondary sources in their own words Sophisticated language and complex sentences used. Scientific terminology is used thoroughly. Terms have been explained in a way that a Year 12 student could understand. 	<p>3</p> <ul style="list-style-type: none"> Summarised the information from secondary sources in their own words Complex language and standard sentences used. Scientific terminology is somewhat used. Terms have been explained in a way that a Year 12 student could understand. 	<p>2</p> <ul style="list-style-type: none"> Most of the information in their own words Standard language used. Scientific terminology present 	<p>1</p> <ul style="list-style-type: none"> Most of the information in their own words Standard language used.
INS12-4	<p>5</p> <ul style="list-style-type: none"> Student have made highly effective use of written text, pictures, maps, graphs and/or graphics to communicate the information. Graphical representations of data are accurate and appropriate and enhance the meaning of the student's article. Digital technology has been implemented in a highly effective way to communicate information in a format that enhances its impact. 	<p>4</p> <ul style="list-style-type: none"> Student have made effective use of written text, pictures, maps, graphs and/or graphics to communicate the information. Graphical representations of data are accurate and appropriate and enhance the meaning of the student's article. Digital technology has been implemented in an effective way to communicate information in a format that enhances its impact. 	<p>3</p> <ul style="list-style-type: none"> Student have used written text, pictures, maps, graphs and/or graphics to communicate the information. Graphical representations of data are appropriate and enhance the meaning of the student's article. Digital technology has been implemented to communicate information. 	<p>2</p> <ul style="list-style-type: none"> Student have used written text, pictures, maps, graphs and/or graphics simply. Graphical representations of data are appropriate. Digital technology has been implemented to communicate information. 	<p>1</p> <ul style="list-style-type: none"> Student have used written text, pictures, maps, graphs and/or graphics simply. Graphical representations of data are appropriate.
INS12-12 AND/OR INS12-13 AND/OR INS12-14 AND/OR INS12-15	<p>5</p> <ul style="list-style-type: none"> The information includes an extremely detailed outline of all FIVE scientific concepts This is supported in extreme detail by evidence from the student's research. Concepts from at least 3 different topics have been researched. 	<p>4</p> <ul style="list-style-type: none"> The information includes a detailed outline of all FIVE scientific concepts This is supported in detail by evidence from the student's research. Concepts from at least 3 different topics have been researched. 	<p>3</p> <ul style="list-style-type: none"> The information includes an outline of all FIVE scientific concepts This is supported by evidence from the student's research. Concepts from at least 3 different topics have been researched. 	<p>2</p> <ul style="list-style-type: none"> The information includes a simple outline of all FIVE scientific concepts This is supported by simple evidence from the student's research. Concepts from at least 2 different topics have been researched. 	<p>1</p> <ul style="list-style-type: none"> Simple outline of 3 – 4 scientific concepts Concepts from at least 2 different topics have been researched.

INS12-12 AND/OR INS12-13 AND/OR INS12-14 AND/OR INS12-15	5 <ul style="list-style-type: none"> Student have included information that has been retrieved from a wide variety of types of sources. The information is accurate and detailed as well as being relevant to the chosen concept. The students' bibliography demonstrates that a wide range (20) of different types of sources has been used. Eg scientific articles and websites, newspaper articles, videos. The sources are consistently and accurately listed following the scaffold provided with no mistakes. 20 + sources used. 	4 <ul style="list-style-type: none"> Student have included information that has been retrieved from a variety of types of sources. The information is accurate and detailed as well as being relevant to the chosen concept. The students' bibliography demonstrates that a wide range (20) of different types of sources has been used. The sources are consistently and accurately listed following the scaffold provided with one mistake. 20 + sources used. 	3 <ul style="list-style-type: none"> Student have included information that has been retrieved from a variety of types of sources. The information is detailed as well as being relevant to the chosen concept. The students' bibliography demonstrates that a wide range (15 -20) of different types of sources has been used. The sources are consistently and accurately listed following the scaffold provided with few mistakes. 15 - 20 sources used. 	2 <ul style="list-style-type: none"> Student have included information that has been retrieved from a variety of types of sources. The information is relevant to the chosen concept. The sources are consistently listed following the scaffold provided with few mistakes. 5 - 14 sources used. 	1 <ul style="list-style-type: none"> Student have included information that has been retrieved from sources. The information is relevant. The sources are listed following the scaffold provided with several mistakes. 2 - 10 sources used.
INS12-12 AND/OR INS12-13 AND/OR INS12-14 AND/OR INS12-15	10 – 9 <ul style="list-style-type: none"> Student have explained in outstanding detail the science involved in each of the FIVE concepts. Discuss the application in society for ALL five concepts Describe possible future directions in great detail. 	7 – 8 <ul style="list-style-type: none"> Student have explained in great detail the science involved in each of the FIVE concepts. Discuss the application in society for ALL five concepts Describe possible future directions in good detail. 	5 – 6 <ul style="list-style-type: none"> Student have explained in good detail the science involved in each of the FIVE concepts. Discuss the application in society for some concepts Discuss possible future directions in some detail 	3 – 4 <ul style="list-style-type: none"> Student explains the science involved in each of the FIVE concepts to a simple level Discuss the application in society for some concepts Identify possible future directions 	1 – 2 <ul style="list-style-type: none"> Explains the science involved in most concepts to a simple level Identify the application in society for some concepts Identify possible future directions
INS12-14 AND INS12-5	5 <ul style="list-style-type: none"> Shows thorough understanding of planning an investigation that takes into account validity and reliability Shows thorough understanding of how a double-blind investigation can be carried out in this scenario Shows thorough understanding of how to handle samples, gather data and analyse results in this placebo-controlled investigation 	4 <ul style="list-style-type: none"> Shows sound understanding of planning an investigation that takes into account validity and/or reliability Shows sound understanding of how a double-blind investigation can be carried out in this scenario Shows sound understanding of how to handle samples, gather data and analyse results in this placebo-controlled investigation 	3 <p>Shows thorough understanding of how a placebo-controlled investigation can be carried out in this scenario with some consideration of validity and/or reliability</p> <p>OR</p> <p>Shows thorough understanding of how a double-blind investigation can be carried out in this scenario with some consideration of validity and/or reliability</p> <p>OR</p> <p>Shows sound understanding of how a double-blind, placebo-controlled investigation can be carried out in this scenario</p>	2 <ul style="list-style-type: none"> Shows some understanding of planning an investigation and/or double-blind investigations and/or placebo-controlled investigations 	1 <ul style="list-style-type: none"> Provides some relevant information
INS12-5 INS12-6	5 <ul style="list-style-type: none"> Student have linked each article to the associated dot points (4+) in the syllabus. This must be noted on each article magazine spread. 2 – 3 pages per concept max 	4 <ul style="list-style-type: none"> Student have linked each article to the associated dot points (3) in the syllabus. This must be noted on each article magazine spread. 2 pages per concept 	3 <ul style="list-style-type: none"> Student have linked each article to the associated dot points (3) in the syllabus. Noted on a separate page. 1 – 2 pages per concept 	2 <ul style="list-style-type: none"> Student have linked each article to the associated dot points (2) in the syllabus. Noted on a separate page. 	1 <ul style="list-style-type: none"> Student have linked each article to the associated dot point in the syllabus. Noted on a separate page.

Grade	Outstanding	High	Sound	Basic	Limited
Mark	40 – 35 (A)	34 – 28 (B)	27 – 12 (C)	11 – 5 (D)	4 – 0 (E)

Total: / 40 (Knowledge and Understanding = 15% and Working Scientifically = 10%)

Comment: