



ORANGE HIGH SCHOOL

ASSESSMENT TASK 2

Subject	Earth and Environmental Science
Topic	Earth's Resources
Class Teacher	Ms J Mansur
Head Teacher	Mr A Routh
Year	12
Date Given	Friday 24 th June 2022 (Week 9, Term 2)
Date Due	Friday 22 nd July 2022 (Week 1, Term 3)
Weighting	35%

Assessment Outline

As part of the Year 12 Earth & Environmental Science course, students will be required to investigate and evaluate the effectiveness of technologies in predicting natural disasters.

The Task:

- 1) Undertake a first-hand investigation to model the impact that a simple engineering solution can have in mitigating the impact of a named geological natural disaster, specifically a volcano or an earthquake. Additionally, predict your model's success and evaluate your model's effectiveness.
- 2) Carry out secondary data research on the design principles (building codes, disaster warning systems and educational instruction) that underpin the mitigation strategies linked to minimising the impact of the named natural disaster and evaluate their effectiveness.
- 3) The information collected will be presented in a report written following the headings below.

Your report will include the investigation and the research.

Your report should use multiple sources of information and all should be correctly cited using the APA style (got to: <https://www.citethisforme.com>).

The task is worth 35% of your course marks.

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 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 in both cases.

Plagiarism:

Plagiarism, the using of the work of others without acknowledgement will incur serious penalties and may result in a 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 in the OHS Higher School Certificate Assessment Booklet will be followed regarding the non-completion of assessment tasks.

Outcomes Assessed

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

- **WS 12.1 Questioning and predicting**
 - develops and evaluates questions and hypotheses for scientific investigation
- **WS 12.2 Planning investigations**
 - designs and evaluates investigations in order to obtain primary and secondary data and information
- **WS 12.6 Problem solving**
 - Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes
- **WS 12.7 Communicating**
 - Communicates scientific understanding using suitable language and terminology for a specific audience
- **KU 12.14 Students**
 - Analyses the natural processes and human influences on the Earth, including scientific evidence for changes in climate.

Utilise the following scaffold to complete your report:

Part 1: First-hand Investigation

1. Named geological disaster
2. Background including location and date of the event
3. Model information: prediction of how your model will respond to the mitigation strategy you chose, include pictures and/or videos
4. Testing: show evidence of the test, include pictures and/or videos
5. Evaluation of your model's effectiveness and limitations

Part 2: Research and Evaluate

1. Mitigation solutions
 - a. Building codes
 - b. Disaster warning systems
 - c. Educational instructions

(Note: relate your research and evaluation back to the secondary information gathered)

Part 3: Bibliography

Your report should use multiple sources of information and all should be correctly cited using the APA style (got to: <https://www.citethisforme.com>).

Marking Rubric: Depth Study Portfolio and Presentation

NAME: _____

Outcomes Assessed:	Task section	Basic (D)	Sound (C)	Thorough (B)	Extensive (A)	Total:
WS12 – 1 Develops and evaluates questions and hypotheses for scientific investigation	Part 1 First-hand investigation 1 2 5	<ul style="list-style-type: none"> Geological disaster named Simple background information Basic evaluation of models effectiveness Simple assessment of models effectiveness and limitations <p>1 – 2 marks</p>	<ul style="list-style-type: none"> Geological disaster named Some background information An evaluation of models effectiveness Description of models effectiveness and limitations <p>3 – 6 marks</p>	<ul style="list-style-type: none"> Geological disaster named Detailed background information Detailed evaluation of models effectiveness Detailed description of models effectiveness and limitations <p>7 – 8 marks</p>	<ul style="list-style-type: none"> Geological disaster named Extensive background information Extensive evaluation of models effectiveness Extensive description of models effectiveness and limitations <p>9 – 10 marks</p>	
WS12 – 2 Designs and evaluates investigations in order to obtain secondary data, critically thinking skills and scientific processes	Part 1 First-hand investigation 3 4	<ul style="list-style-type: none"> Incomplete prediction of models response to mitigation strategy Includes a visual representation of the model Includes a visual representation of the model being tested <p>1 mark</p>	<ul style="list-style-type: none"> A prediction of models response to mitigation strategy included Includes a visual representation of the model with some explanation Includes a visual representation of the model being tested with some explanation <p>2 marks</p>	<ul style="list-style-type: none"> Detailed prediction of models response to mitigation strategy Includes a visual representation of the model with detailed explanation Includes a visual representation of the model being tested with detailed explanation <p>3-4 marks</p>	<ul style="list-style-type: none"> Extensive prediction of models response to mitigation strategy Includes a visual representation of the model with extensive explanation Includes a visual representation of the model being tested with extensive explanation <p>4-5 marks</p>	
WS12 – 6 Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes	Part 2	<ul style="list-style-type: none"> Presents limited information Shows limited ability to evaluate the technologies to minimise the effects Evaluation lacks logical flow <p>1 – 3 marks</p>	<ul style="list-style-type: none"> Information is included Evaluation to minimise technologies demonstrated Evaluation demonstrates logical flow <p>4 – 7 marks</p>	<ul style="list-style-type: none"> Detailed information is included Detailed evaluation to minimise technologies demonstrated Evaluation demonstrates detailed and logical flow <p>8-11 marks</p>	<ul style="list-style-type: none"> Extensive information is included Extensive evaluation to minimise technologies demonstrated Presents logical and cohesive research supporting evaluation with evidence <p>12-15 marks</p>	
WS12 – 7 Communicates scientific understanding using suitable language and terminology for a specific audience	Part 3 Bibliography and use of scientific terminology	<ul style="list-style-type: none"> Report organisation is followed correctly Bibliography (less than 4 supplied) Links Part 2 to bibliography Report has grammatical errors Minimal use of scientific terminology <p>1-2 marks</p>	<ul style="list-style-type: none"> Report organisation is followed correctly Bibliography (5 – 9 supplied) Links Part 2 to bibliography (5 sources) Some grammatical errors Students use some scientific terminology <p>3-5 marks</p>	<ul style="list-style-type: none"> Report organisation is followed correctly and is mostly the same as the scaffold Bibliography (10-14 supplied) Links Part 2 to bibliography (5 - 9 sources) Minimal grammatical errors Thorough use of scientific terminology <p>6-8 marks</p>	<ul style="list-style-type: none"> Report organisation is followed correctly and is 100% the same as the scaffold Bibliography (minimum 15 supplied) Links Part 2 to a completed bibliography (minimum 10 sources) No grammatical errors Use of scientific terminology is at an exemplary level <p>9-10 marks</p>	
Total Marks:						__/40

Teacher Feedback:
