### woonona HS logo

Woonona High School

Assessment Task

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title: Natural Disaster Research

Year & Course: Year 9 Science

Date task issued: **12/02/2018** (Monday Week 3)

Half way submission due date: **26/02/2018** (Monday Week 5)

Final submission due date**:** **07/03/2018**  (Wednesday Week 6)

Assessment value: 25%

|  |  |
| --- | --- |
| Key Terms | Definition |
| Identify | Recognise and name |
| Describe | Provide characteristics and features |
| Discuss | Identify issues and provide points for and/or against |
| Explain | Give reasons; justify opinions or decisions |
| Outline | Sketch in general terms; indicate the main features of |

Outcomes Being Assessed:

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| --- |
| Outcomes Description |
| ES3b - describe some impacts of natural events, including cyclones, volcanic eruptions or earthquakes, on the Earth's spheres  ES2d - describe how some technological developments have increased scientific understanding of global patterns in geological activity, including in the Asia-Pacific region  Additional Content:   * discuss technological developments that have extended the ability of scientists to collect information about, and monitor events in, the natural world * outline examples where advances in science and emerging science and technologies significantly affect people's lives, including generating new career opportunities in areas such as astrophysics, geophysics, space science and volcanology |

Task Details:

Your task is to research ONE natural disaster (cyclone, volcano, earthquake, tsunami) that has occurred within the last 10 years OUTSIDE OF AUSTRALIA. You will then need to complete the research task by answering the following questions based on the event you have chosen.

Choose one of the following methods to present your task

* Word document
* Power point
* Prezi
* Poster
* Diorama/model + written information
* Newspaper article
* Brochure
* Video
* Or your own original suggestion (check with your teacher first)

Part A: Research

**My Checklist:** *Tick the boxes as you complete each part*

1. Explain the general causes of your chosen natural disaster (e.g. Cyclones, Volcanoes, Earthquakes, Tsunami)
2. Identify the date and location of the disaster (city and country) you must also indicate the location on a world map.

Extension: Include the overall level of impact on surrounding areas on your map

1. Identify and describe the events of the natural disaster. Include:
   * The type of event it was (eg. shield volcano eruption).
   * How long the event lasted
   * Observations from witnesses
   * When the events started and finished
   * Include a picture before and after the event if possible.
2. Outline the effects that this disaster had within the lithosphere, hydrosphere, biosphere and atmosphere in relation to both

* Humans within society (e.g. costs, building damage)
* The natural environment

Part B: Action Plan

For this component you are the Director of the National Emergency Management Committee (NEMA) which is responsible for preventative measures & responses to minimise damage in the case of a repeat event of your chosen disaster. Your action plan needs to cover the following criteria:

1. Preventative measures

* Detection methods and monitoring
* Scientific and/or industrial improvements that minimise the damage(s) to the lithosphere, biosphere, hydrosphere and atmosphere.

1. Responses

* Alerts/warnings
* Communication systems
* Evacuation methods
* Designated safe areas
* Rights of return

References

You will need to access at least 3 sources of information (books, websites, etc.) to complete this report. These sources should be placed in the bibliography at the end of your report, using the following format:

Books: Author (Year). “Title.” City of Publication, Page numbers used

Websites: Author, Date (if known). “Full Title of website.” and/or Full http address, Date of access

Halfway Submission Requirements

We will be using class time to provide formative feedback to each other on where your project is at and where to from here. The aim is to help you produce the highest quality assessment task that you can. The formative feedback will be about Part B of the assignment. You will need to have completed all of Part A and attempted to complete Part B in order to participate in the formative feedback session

Marking Criteria

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| --- | --- | --- | --- | --- | --- | --- |
| **Criteria** | **Marks Awarded** | | | | | |
|  | **Not Included** | **Limited** | **Basic** | **Sound** | **High** | **Outstanding** |
| **Part A** |  |  |  |  |  |  |
| Explain causes | Not included / No relevant details | Event classified only | Simple description of physical causes of event | Outline of physical phenomena leading to event | Thorough explanation, no specific link to plate tectonics | Thorough explanation involving reference to plate tectonics |
| Date, location and map | Not included / No relevant details | Details and/or map missing or inaccurate | All details, less depth, small map of country only | All details accurate, clear, readable map showing area of the world located in |  | All details accurate, clear, readable map showing global location |
| Extension: surrounding areas on map | Not included / No relevant details |  |  | General map of surrounding area |  | Clear map outlining surrounded areas affected |
| Events:   * type * length * observations * dates * pictures (before and after) | Not included / No relevant details | 2 -3 details only | Most details addressed correctly | Each detail addressed, some errors | Each detail addressed correctly | Each detail addressed correctly and with depth |
| Impacts on spheres   * Societal * Natural environment | Not included / No relevant details | 1 impact on each | 2 impacts on each | 2 impacts on each with some explanation | 2 impacts on each and clear explanation | 2 impacts on each and implications |
| **Part B** |  |  |  |  |  |  |
| Preventative measures   * Detection methods and monitoring * Scientific and/or industrial improvements on spheres | Not included / No relevant details | 1 of each listed | 2 of each listed | 2 of each with mention of application | Detailed description of at least 2 of each with application | Detailed description of at least 2 of each, with application, justification. |
| Responses   * Alerts/warnings * Communication systems * Evacuation methods * Designated safe areas * Rights of return | Not included / No relevant details | 1 of each listed | 1 of each listed with minimal explanation | 1 of each listed and justified | All points described and justified in context of area | All points addressed, understanding of limitations, constraints and innovations |
| Bibliography | Not included / No relevant details | Less than 3 sources, some errors in referencing | Less than 3 sources, referenced correctly | 3 sources, some errors in referencing | 3 sources, referenced correctly | More than 3 sources, referenced correctly |

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| **Grade** | **E** | **D** | **C** | **B** | **A** |
| **Areas for Assessment** | **Limited** | **Basic** | **Sound** | **High** | **Outstanding** |
| **Knowing and understanding** | demonstrates elementary knowledge and understanding of some scientific principles, and about some uses of science | demonstrates basic knowledge and understanding of scientific models, theories and laws, and about the use and influence of science | demonstrates sound knowledge and understanding of scientific models, theories and laws, and about the nature, use and influence of science | applies thorough knowledge and understanding of scientific models, theories and laws, and about the nature, use and influence of science | applies extensive knowledge and understanding of scientific models, theories and laws, and about the nature, use and influence of science |
| **Processing and analysing data and information** | recounts conclusions | describes trends, patterns and draws some conclusions | explains trends, patterns and relationships to draw scientific conclusions | uses critical thinking skills to explain trends, patterns and relationships to draw scientific conclusions | uses critical thinking skills to evaluate trends, patterns and relationships to draw evidence-based scientific conclusions |
| **Problem-solving** | uses information provided and, with assistance, participates in problem-solving activities | uses first-hand and secondary sourced data and information, and appropriate digital technologies, to assist in the problem-solving process | gathers and selects first-hand and secondary sourced data and information to identify issues and participate in problem-solving using appropriate digital technologies | systematically gathers, selects, organises and processes first-hand and secondary sourced data and information to explain issues and inform problem-solving using appropriate digital technologies | effectively gathers, selects, organises and processes first-hand and secondary sourced data and information to evaluate issues and inform creative solutions using appropriate digital technologies |
| **Communicating** | with guidance, communicates elementary scientific information to an audience. | communicates basic scientific understanding to an audience. | communicates sound understanding of scientific ideas to an audience. | communicates well-developed understanding of scientific ideas to an audience using scientific units and language conventions. | communicates comprehensive understanding of scientific ideas, and related evidence for a particular purpose and audience using scientific units, language conventions and text types. |