HSC Earth and Environmental Science
Assessment Task 1

Plate Tectonic Super Cycle Model

The Task:

To produce a model that demonstrates the plate tectonic supercycle with an accompanying document that explains the theory and the effect of this phenomenon on landforms, climate and evolution. The model can be presented in any form including:

- A physical model such from materials such as plasticine or paper mache
- A stop-motion film
- A series of diagrams
- A multimedia presentation
- An animation

Due Date:

Friday 17th May 2019 (3:15pm)

Weighting:

40 marks awarded representing 20% HSC Assessment mark

Assessor:

Mr. Anthony Neenan

Syllabus Dot Points:

Students:

- model the plate tectonic supercycle
- outline the effect of the plate tectonic supercycle on large-scale phenomena, including climate and evolution

Outcomes Assessed:

EES11/12-3 conducts investigations to collect valid and reliable primary and secondary data and information
EES11/12-4 selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media
EES11/12-7 communicates scientific understanding using suitable language and terminology for a specific audience or purpose
EES12-12 describes and evaluates the models that show the structure and development of the Earth over its history

The model:

It is not envisaged that your model will accurately depict actual continents on the move but a more stylised representation of landmasses. Your model should show:

- Rifting
- Formation of a spreading zone
- Opening of an ocean basin
- Onset of subduction
- Contraction of ocean basin as continents converge
- Continental collision
- Formation of new supercontinent

Marks will be awarded for accurate depiction of these steps in the cycle, creativity and effort, and how well your model conveys the process to the audience.

The explainer document:

This document will include

A. The processes involved in the plate tectonic supercycle (include the headings outlined above)
B. The effect of the plate tectonic supercycle on landforms
C. The effect of the plate tectonic supercycle on climate
D. The effect of the plate tectonic supercycle on evolution

Word Limit:
As a guide, your explainer document should be 800-1200 words.

Referencing:
Harvard style referencing is required for "explainer" document. Harvard referencing includes in-text citations and complete reference list accompanying presentation.

Making Rubric

The model:

Element	**Available Marks**
Creativity and design – your model shows effort, creativity and an innovative approach to modelling the plate tectonic supercycle	4
Accurate depiction of processes – your model accurately depicts each step in the plate tectonic supercycle as outlined above	8
Labelling – Your model includes titles, captions and labels for each stage depicted	4
Communicating Information – overall, how well your model conveys the process of the plate tectonic supercycle to the audience	4
Model Total	20

The explainer Document:

Element		**Available Marks**
Content - Work is thoroughly researched and accurately communicated using appropriate scientific language	A. Processes involved in the plate tectonic supercycle	4
	B. The effect of the plate tectonic supercycle on landforms	3
	C. The effect of the plate tectonic supercycle on climate	4
	D. The effect of the plate tectonic supercycle on evolution	4
Spelling, Grammar and formatting – There are few spelling and grammatical errors, design and formatting make document readable and appealing.		2
Referencing – Harvard referencing has been used appropriately. There are varied sources and multiple references for each section.		3
Document Total		20