Project is due on _____ Project Subject: _____

Project Summary:
The purpose of this project is to conduct research on earthquakes, volcanoes, tsunamis, and plate tectonics. You will need to answer the "Plate Tectonics" question, pick one natural disaster, create an illustration or model, then answer the research questions.

Project Evaluation:
This project will be evaluated in the following ways.

A. The quality of your response to the "Plate Tectonics" question. (30 points- see writing rubrics)
B. The quality of your models or illustrations (20 points)
C. The quality of the explanation you create for the model or illustration (30 points –see writing rubric)
D. Works cited (20 points- see bibliography rubric)

Natural Disasters- Choose one or find you own.

Earthquakes-
- Haiti 2010
- Pakistan 2005
- Indian Ocean 2004
- Tangshan 1976
- Tohoku (tsunami) 2011
- Aleppo 1138
- Haiyuan 1920
- Antioch 526
- Kento, Japan 1923
- San Francisco 1906

Volcanoes-
- Nevado del Ruiz 1985
- Mt. St. Helen
- Mt. Vesuvius, Pompeii
- Santa Maria 1902
- Kilauea
- Mt. Tambora
- Krakatua (tsunami)
- Grimsvotn, Iceland
- Santorini

The "Plate Tectonics" Question.
In your own words, explain the Theory of Plate Tectonics. Explain the structure of the Earth's interior. Explain how what happens inside the Earth affects the topography of the Earth. Based on your research of plate tectonics, what is your prediction of how the Earth will change in the future due to plate tectonic activity? How would these concepts apply to a practical problem or real-world situations? Be sure to support your ideas with specific facts and data. You may include an illustration if you think it is helpful.

Create an Illustration or a Model.
Describe how one of these natural disaster occurred. Create a demonstration or visual illustration of a real earthquake, tsunami, or volcano. Be sure to pick an event that had actually occurred. Your selection need to be a specific geographical location. Make sure you incorporate scientific data and facts about this event. Label the parts and include a detailed explanation that could be seen in a textbook or in a museum. Be sure the viewer understands the information you are presenting.

Research Questions.
1. Describe the effects it has on the people and the environment. Include in your model or illustration a detailed and elaborate explanation.
2. Find two folk tales about earthquakes and/or volcanoes, such as the Japanese story of the "Giant Catfish". Summarize each tale and explain how the tale is related or connected to the real science that explains earthquakes and volcanic activity.

Model and Illustration Rubric:
The scientific visual accurately displays the information. Data from research is fully incorporated in the visual. The model or illustration needs to be presented neatly. The model or illustration needs to include all the important parts and the parts should be clearly and securely labeled. The model or illustration needs to reflect your work- not copied or printed directly from the internet or book. Non-original work will not receive credit. The display needs to show evidence of learning. A good effort needs to be reflected in the model or illustration.

Works Cited Rubric
Each source you used needs to be correctly cited (using MLA criteria). You need to use at least 2 credible sources. At lease one of your sources need to be a resource you found on your own (not from the list of awesome sources on the wiki). Each correctly cited source is worth 10 points. Remember to list the sources on the "Works Cited" page alphabetically by author.

Plate Tectonics Question and Explanations Rubric
30 points- There is evidence in this response that the student has a *full and complete understanding* of the question.

- The supporting scientific evidence is complete and demonstrates a full integration of scientific concepts, principles, and/or skills.
- The response reflects a complete synthesis of information, such as data, cause-effect relationships, or other collected evidence.
- The accurate use of scientific terminology strengthens the response.
- An effective application of the concepts to a practical problem or real-world situation reveals a complete understanding of the scientific principles.

20 points- There is evidence in this response that the student has *general understanding* of the question.

- The supporting scientific evidence is generally complete with some integration of scientific concepts, principles, and/or skills.
- The response reflects some synthesis of information, such as data, cause-effect relationships, or other collected evidence.
- The accurate use of scientific terminology is present in the response.
- An application of the concepts to a practical problem or real-world situation reveals a general understanding of the scientific principles.
- Answers most or part of the question.

10 points- There is evidence in this response that the student has *minimal understanding* of the question.

- The supporting scientific evidence is minimal.
- The response reflects little or no synthesis of information, such as data, cause-effect relationships, or other collected evidence.
- The accurate use of scientific terminology may not be present in the response.
- An application of the concepts to a practical problem or real-world situation, if attempted, is minimal.
- Does not fully answers all part of the question.

0 points- There is no response or the response is not on topic or the response is plagiarized.