Volcano PBL Overview

Thank you for taking on this important task! As Interim Director of this starter company I have been asked to put together a group of top level individuals who will work together to gather and present information to our first set of clients. I’d like to welcome you and wish you the best of luck in your first endeavor.

We are a consulting firm that specializes in identifying real-world problems, researching facts and developing solutions to issues our clients face on a day- to-day basis. At the present time we have four separate entities (clients) that we are working for. You need to meet with me to determine who your group members are and what client you will be working for. We require that you develop a visual representation of your findings and present your results to your client(s) and the other members of the company.

We are confident in your abilities, and are sure, you will do right by the company! Our success depends on your success. The company is only as great as its parts, make us great ☺

Yours in Highest Regard,

*Ms. Magma Caldera*, Interim Director

The Clients:

1. City and county representatives from Orting, Washington, want to know if they should or should not build a high school at the base of Mt Rainier. Would an eruption start a mudflow to bury the school and all persons trapped inside?
2. Kilauea is showing signs of possible eruption. You need to evaluate seismic data, predict the size and location of the eruption and recommend a public safety plan.
3. Mt. Hood in Oregon is acting up! The governors of Oregon and Washington have hired you to analyze data, predict the eruption and make safety recommendations
4. Analyze the history and safety of the Yellowstone area. It’s showing new activity, is this significant? Is this evidence of new volcanic activity? What are the regional and global effects of a Yellowstone eruption?

*\*detailed situation descriptions are to be found on the Volcano PBL website on the Skelly library* *webpage*

Your Job(s)

Within your working group, you each must decide which position you would like to pursue. Once a decision has been reached, you must inform Ms. Caldera (a.k.a. Skelly) of your choices. Each job description is detailed below and indicates the specialized focus of the role for this project. (requirement: it is of the upmost importance that you carry out enough research so that **you fully** understand your role as described below). No more than two people can be assigned to any one position.

**Geologist**:

-An expert on the internal causes of volcanoes -Familiar with all three types of volcanoes and the types of magma and eruptions associated with each type -Knowledgeable in the variety of dangers associated with volcanic eruptions -Experience **in seismology** -Experience with **interpreting data** used to predict volcanic eruptions -You **can read and explain a map**, and can **research and explain Google Earth for information about your site** **area**.

**Historical Geologist**:

-You know everything a typical geologist knows -Focus on reading the rock record to see the **eruptive history** of a volcano -Knowledgeable about the variety of dangers associated with volcanic eruptions -Know about the **past history** of volcanoes and use this information to predict when and how a volcano might erupt next

**Risk Analyst**:

-Know almost everything there is to know about volcanoes -Must be able to **determine the probability of danger to communities** -You **work with the Emergency Management Agency to determine the type and extent of**  **damage** a community might incur and the costs associated with those damages -You **need to come up with possible solutions** to help avoid catastrophe while saving everyone’s money at the same time

**Volcanologist**:

-Know **everything there is to know about volcanoes**

-Familiar with **all three types of volcanoes**, and **any other information associated** with volcanoes

-Knowledgeable in the **variety of dangers** associated with volcanic eruptions

- **Explain volcano anatomy**

-Ensure the clients **clearly understand** general volcano information

**Interim Director’s Role (teacher)**:

 -Inform groups of due dates -Meet with groups to check in on information collection, teamwork accountability, management of time, etc. -Check website(s) for information summaries and collection -Development and dispersal of expectations and rubric(s)

Task:

Once your team, job position and first client has been assigned to you, click on the Volcano PBL Project link, and begin your project following the directions below.

1. Looking at the bottom of the page, click on the *Situations* to find **your** Situation. Read your assigned situation to get an idea of your client’s problem and the *focus* of your research.

2. Click back to the project page. You need to organize your group’s efforts by viewing the PBL model. READ it as a group. This will put your research efforts in sequence and guide you in your exploration. Once you have read this over, click back.

3. Now click on the information on the bottom of the page for your situation. Briefly explore ALL of the information/links/etc for your region so you can discover what you can/can’t access. You will also notice that on the main Ms. Skelly project page there are a variety of links to gather information specific to your area. Be sure to utilize these links when researching your client’s location and meeting their needs. Feel free to explore the internet for additional resources!!!

4. You must ALL learn about Volcanoes FIRST, which means you must research the VOLCANOLOGY, LIVING WITH VOLCANOES links at the bottom of the page before fulfilling your individual role requirements! Each link has multiple pages to explore, look at all of them to gather your information.

5. Once step “4” is completed move on to your role requirements.

6. Be sure to follow the timeline to complete this project ***on schedule*** for the meeting, and presentation to your client.

 This will need to be worked on ***in class AND out of class DAILY***

7. All team members should become masters of volcanology and then focus their attention on their job descriptions. If you are not an expert in the described areas, become one by reading each of the provided links on the Volcano module page.

8. ALL team members should be able to explain what their group’s situation is and should constantly be focused on that issue while researching their topic(s).

The presentation length should be a minimum of 15 minutes in length and each member must have approximately equal time presenting. Refer to rubric(s) for grade breakdown.