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| Science 7 Unit Overview  |
| Unit Name: | Volcanoes and Earthquakes |
| Duration:  | 3 Weeks |
| Project Idea: | In teams of up to three students, students will create have a choice between demonstrating their knowledge of volcanoes or earthquakes to their peers. This is an open project in which students can create models, create a video play or whatever meets the criteria of the assignment (see Appendix A). A copy of the project is attached at the back of this overview |
| IRP Standards: | - analyze the dynamics of tectonic plate movement and landmass formation- explain how the Earth’s surface changes over time |
| 21st Centuary Skills Assessed and taught(will be used for effort assessment) | - Collaboration- Communication (0ral Presentation)- Critical Thinking- Use of video and computers.  |
| Driving Question: | Why is it important for scientists and students to understand plate tectonics?  |
| Further Questions that focus on the IRP standards:  | See Appendix A |
| Major Products and Performances | Group: | Demonstration of knowledge of volcanoes or earthquakes with an idea approved by the teacher. The demonstration will happen in front of peers |
| Individual: | Mid-way self and group evaluation. Self and group evaluation sheet attached to overviewFinal self and group evaluation sheet |
| Entry Events/Lessons | Day 1 | - Review plate tectonics- Specifically ask students to do a web search of the last major earthquake that was over 7 on the Richter scale. Where was it and how many people did it kill? - Where was the last major volcanic explosion that impacted human lives?- Specifically ask students to make a guess using their knowledge of plate tectonics where the next earthquake and volcanic explosion will be and record their guesses using a large map of the world- Give quick notes on types of earthquakes |
| Day 2 | Continue to give notes on earthquakes. This is a teacher directed activity. Students will have CYU questions based on the textbook |
| Day 3 | Give notes on how and why volcanic eruptions happen-If time permits, ask students if they would like to change their earthquake and vocano guesses on the map- Reveal project and learning questions that must be answered |
| Project time line | Week 1 | Students will work with their team to do basic research and perhaps gather materials for their demonstrationAt the end of the week, students will do their mid-way peer and self evaluations. They will also start to answer the questions for themselves. |
| Week 2  | Students will complete their project. The teacher will provide supervision and feedback and inquire where their project is at  |
| End of Week 2 | Students will demonstrate their project to a group of their peers. Each demonstration will be video recorded for self reflection purposes |
| Reflection methods | - Self and peer evaluation - After watching the video of themselves, There will be a whole class discussion. |

# Appendix A - The Assignment as Posted on the Wikipage

We will have a day of EARTH ARTIFACT DAY! An artifact is ANY item which you can physically touch and show to the class to demonstrate your learning and understanding.

You can:

Creating a drama/ movie

Building a working model

Making something with your computers and showing it to other students.

Create the most awesome poster ever!

Or whatever you would like

You and a partner of your choice (cannot be with someone you have already been a partner with already) get to choose. So please be as creative as you need to be.

If you plan on doing VOLCANOES, you must answer these questions:

How do volcanoes erupt?

How are volcanoes made?

What is the most active volcano in the world? Why is it so active?

Where are the active volcanoes?

Why do volcanoes erupt?

Are there any active volcanoes in Dalian? Why or why not?

If you are doing EARTHQUAKES:

What causes earthquakes?

Can we predict earthquakes?

How do scientists measure earthquakes?

How can we protect ourselves from Earthquakes?

How can we have fewer deaths from Earthquakes?

Do earthquakes happen in Dalian? Why or why not?

Note: each student in your group must answer these questions. These questions are a big part of your grade as it shows me how well you understand the material. Please hand in these answers, typed and on a separate piece of paper

**Appendix B – Reflections**

1. Please watch the video of your presentation
2. What did you like and what did you not like in your presentation?
3. Please tell me 10 facts that you learned about volcanoes.
4. Please tell me 10 facts that you learned about earthquakes.
5. Science fair is coming up, please tell me what you learned from this assignment that can help you with the science fair.