

SHAKE, RATTLE, AND ROLL

An Eighth Grade Level WebQuest on Earthquakes



INTRODUCTION

Each year several cases of earthquake activity occur in the U.S. On June 18, 2002 an earthquake measuring 5.0 on the Richter scale occurred in southern Indiana. Because several fault lines are located in the U.S. people need to be more aware of earthquakes and be prepared if one should occur where they are living or visiting.

TASK

You are moving to San Francisco, California or southern Illinois. These areas have frequent earthquake activity and you know very little about earthquakes and how to prepare and protect yourself should a major earthquake strike.

Your job is to become familiar with earthquake terminology, learn about earthquakes and what causes them, complete an activity demonstrating fault lines and plate tectonics, create a poster, learn the survival strategies

necessary to survive an earthquake, and demonstrate what you have learned through by writing a paragraph, making a poster, designing a concept map, and creating a power point presentation.

resources

1. Northridge Earthquake Pictures
<http://www.scecdc.scec.org/slidesho.html>
2. Images of Recent California Earthquakes
<http://www.pacificselectproperty.com/gallery.htm>
3. March 27, 1964 Great Alaska Earthquake Photos
<http://www.geocities.com/HotSprings/Spa/4951/eq.html>
4. Museum of the City of San Francisco - Large-Format Damage Photos
<http://www.sfmuseum.org/1906/photos.html>
5. Loma Prieta Earthquake Photos
<http://geopubs.wr.usgs.gov/dds/dds-29/>
6. ABAG Earthquake Wordsearch Puzzles
<http://www.abag.ca.gov/bayarea/eqmaps/search.html>
7. Understanding Earthquakes
<http://www.crystal.ucsb.edu/ics/understanding>
8. Historical Perspective - This Dynamic Earth
<http://pubs.usgs.gov/publications/text/historical.html>
9. What Causes an Earthquake?
<http://www.pdc.org/pdc/pub/Earthquakes/EarthquakeCauses.html>
10. Tectonic Plate Map - Musical Plates
<http://www.k12science.org/curriculum/musicalplates/platemap.html>
11. Types of Earthquakes
<http://scign.jpl.nasa.gov/learn/eq2.htm>
12. Every Place Has Its Faults!
<http://www.tinynet.com/faults.html>

13. Earthquake! There's A Whole Lot Of Shaking Going On!
<http://www.wside.k12.il.us/enternet99/Earthquakes/Earthquakes.htm>
14. Seismic Building Zone Map of the United States
<http://www.disastercenter.com/build/seismic.htm>
15. Richter Scales and Seismographs
<http://www.kpbsd.k12.ak.us/mtn.view/Cfk/earthquake/Fissures/cassieseismo.html>
16. Ten Largest U.S. Earthquakes
<http://www.disasterrelief.org/Library/WorldDis/wde2.html>
17. Seismicity of the United States, 1977 - 1997
<http://www.neic.cr.usgs.gov/neis/general/seismicity/us.html>
18. 10 Basics of Earthquake Survival
<http://www.ladwp.com/resserv/safety/quake/10basics.htm>
19. Tips for Earthquake Survival
<http://www.globalideasbank.org/inspir/INS-84.HTML>
20. Earthquake Quiz
http://www.teachervision.com/tv/printables/Earthquake_Quiz.pdf
21. Earthquake
<http://encarta.msn.com/find/Concise.asp?z=1&pg=2&ti=04EFD000&o=1>
22. Earthquake Hazards Program - For Kids Only
<http://earthquake.usgs.gov/4kids/>
23. Quake - Listening to Earthquakes
<http://quake.wr.usgs.gov/info/listen/allsounds.html>
24. The Topic: Earthquakes
<http://www.eduscapes.com/42explore/quakes.htm>

PROCESS

1. View damage caused by earthquakes by taking a virtual fieldtrip to get an understanding of the destruction they can cause. Write a short paragraph about how you would feel if you had been inside one of these

buildings during the earthquake without the knowledge of what an earthquake was or how to protect yourself during and after the earthquake.

<http://www.scecdc.scec.org/slidesho.html>

<http://www.pacificselectproperty.com/gallery.htm>

<http://www.geocities.com/HotSprings/Spa/4951/eq.html>

<http://www.sfmuseum.org/1906/photos.html>

<http://geopubs.wr.usgs.gov/dds/dds-29/>

2. Play an earthquake word search to become more familiar with the terminology associated with earthquakes. Print the word search that you have chosen and turn it in.

<http://www.abag.ca.gov/bayarea/eqmaps/search.html>

3. Research the history of earthquakes in relation to the continental drift theory.

<http://www.crystal.ucsb.edu/ics/understanding>

<http://pubs.usgs.gov/publications/text/historical.html>

4. Research what causes an earthquake by identifying the four types of fault lines.

<http://www.pdc.org/pdc/pub/Earthquakes/EarthquakeCauses.html>

<http://www.k12science.org/curriculum/musicalplates/platemap.html>

<http://scign.jpl.nasa.gov/learn/eq2.htm>

<http://www.tiny.net.com/faults.html>

5. Working in learning groups of 4, complete Lesson 3, "Fractured Faults", using a hard-boiled egg to demonstrate fault lines and plates. Create a poster about the activity and present to the class.

<http://www.wside.k12.il.us/enternet99/Earthquakes/Earthquakes.htm>

6. Research the U.S. zones for earthquake activity.

<http://www.disastercenter.com/build/seismic.htm>

7. Research how earthquakes are measured.

<http://www.kpbsd.k12.ak.us/mtn.view/Cfk/earthquake/Fissures/cassieseismo.html>

8. Identify the location, date, and magnitude of the earthquakes in the U.S.

<http://www.disasterrelief.org/Library/WorldDis/wde2.html>

9. View the seismic activity in U.S. and for the state in which you live. What is the largest earthquake in your state? When was the last earthquake in your state?

<http://wwwneic.cr.usgs.gov/neis/general/seismicity/us.html>

10. Identify the before, during, and after survival steps for an earthquake disaster. Create a concept map using "Inspiration" to organize your information.

<http://www.ladwp.com/resserv/safety/quake/10basics.htm>

<http://www.globalideasbank.org/inspir/INS-84.HTML>

11. Print and complete the earthquake quiz to check your understanding of earthquakes. Turn in for a grade.

http://www.teachervision.com/tv/printables/Earthquake_Quiz.pdf

11. Create a power point presentation to demonstrate all you have learned about earthquakes. Be creative and be sure to include:

- * earthquakes in relation to the continental drift theory
- * causes of earthquakes
- * types of earthquakes
- * location of major fault lines in the U.S.
- * earthquake zones of the U.S.
- * safety measures before, during, and after an earthquake strikes.

EVALUATION

The students will be assigned grades based on the following criteria:

* Research efforts	10 points
* Quality of paper	10 points
* Completion of word search	10 points
* Cooperation of learning groups	10 points
* Quality of poster	10 points
* Quality of concept map	10 points
* Correctness of quiz	10 points
* Quality of power point presentation	30 points

CONCLUSION

If you enjoyed learning about earthquakes, here are some additional websites you might find interesting.

<http://encarta.msn.com/find/Concise.asp?z=1&pg=2&ti=04EFD000&o=1>

<http://earthquake.usgs.gov/4kids/>

<http://quake.wr.usgs.gov/info/listen/allsounds.html>

<http://www.eduscapes.com/42explore/quakes.htm>

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