

Introduction:

An earthquake is caused by sudden movement in the earth's crust releasing energy. This process occurs more than a million times worldwide each year. Most of these quakes are so subtle we do not feel them but others can cause massive amounts of damage and loss of life.

The task:

In the winter of 1811-12, the Central Mississippi Valley was struck by three of the most powerful earthquakes in U.S. history. Even today, this area has more earthquakes than any other part of the United States east of the Rocky Mountains. However, many people in this region are not aware that there is a threat of a major earthquake happening in this region.

In this research article you are able to choose one of two areas to focus your research. You are to write an informational article that will inform the public more on what earthquakes are, our threat here in the Midwest, and things to do to prepare and stay safe during an earthquake.

1st option: "Geologist" this option will focus more on what earthquakes are and their cause along with information on the New Madrid Fault system in the Midwest. Questions to be addressed:

- What is an earthquake and what causes them? (be detailed)
- How are earthquakes detected?
- Explain how they are measured and how the Richter scale is set up.
- Where the New Madrid Fault System is located and why the public should be aware of it?

2nd option: "Historian" this option will focus more on the history of the New Madrid quakes and earthquake safety.

- What is the New Madrid Fault System and where is it located?
- When did the Great New Madrid Earthquakes occur? Describe the damage, you will have to find eyewitness accounts.
- What can be done personally and in communities to prepare for earthquakes?
- What should you do during an earthquake and after to stay safe?

Resources:

Students will be required to obtain information from at least 3 different sources which they will list on their sources page. The following are a few sites to start:

Virtual Earthquake- students will complete this project by locating the epicenter and magnitude of an earthquake using seismographic data from historic earthquakes around the world. It is also a good resource for the "geologist".

<http://www.sciencecourseware.com/VirtualEarthquake/>

Earthquakes USGS site

<http://pubs.usgs.gov/gip/dynamic/tectonics.html>

New Madrid information on USGS site

<http://earthquake.usgs.gov/earthquakes/states/events/1811-1812.php>

Eyewitness accounts of New Madrid Quakes

http://earthquake.usgs.gov/earthquakes/states/events/1811_eyewitness.php

Prepare for Earthquakes

<http://www.ready.gov/earthquakes>

Earthquake retrofitting- prevention of damage to buildings and bridges.

<http://www.earthquakesafety.com/earthquake-retrofitting.html>