Earthquake Case Study Assignment

Answer the following questions about the case studies you researched. Use the posters you created to answer the following questions (you don’t need to research any of the questions, look at the posters). Write first and last names of all your group members.

1. List the death toll and main cause of death for each case study.

San Francisco: 3,000

Japan Kobe: 143,000

Chile 1960: 2,000

Sumatra 2004:

Tangshan China:

Lisbon 1755: 50,000

Japan 2011: 24,000 Dead

Haiti Chile: 521, 300,000

Madrid Missouri: 1,000

* 1. Which case study had the highest death toll? Why?

1. List the economic toll for each case study (If there isn’t a number, describe the damage).

San Francisco: 18 billion dollars in todays dollars.

Japan Kobe: 200,000 buildings destroyed, or 127 billion dollars in damage.

Chile 1960: 700 million dollars.

Sumatra 2004: (Didn’t have an answer)

Tangshan China:

Lisbon 1755: 32-48 million, or 35 percent of the GDP  
Japan 2011: 154 billion, or 300 billion

Haiti Chile: 14 billion, 30 billion

Madrid Missouri: Ships destroyed on Mississippi, around 50 million dollars.

* 1. Which case study had the highest economic toll? Why?

1. List the magnitude for each case study.

San Francisco: 7.9

Japan Kobe: 6.9

Chile 1960:

Sumatra 2004: 9.2

Tangshan China:

Lisbon 1755: 8.7

Japan 2011: 9.0

Haiti Chile: 7.8, 8.8

Madrid Missouri: 6.7 – 8.8

* 1. Which case study had the highest magnitude?

1. List the amount of movement on the fault/ land caused by the earthquake.

San Francisco:

Japan Kobe: Significant movement.

Chile 1960:

Sumatra 2004: Sea floor moved about 16 feet

Tangshan China:

Lisbon 1755: azures Gibraltar fault,

Japan 2011: Moved east 4 meters.

Haiti Chile:

Madrid Missouri: Glaciers caused this earthquake

* 1. Compare land movement to magnitude. What do you notice?

1. List the plate boundary type for each case study.

San Francisco:

Japan Kobe: Not directly on boundary, on a strike slip fault

Chile 1960:

Sumatra 2004: Convergent Plate Boundary

Tangshan China:

Lisbon 1755: Transform, Eurasian and African plates.

Japan 2011: Convergent Boundary, ocean to ocean

Haiti Chile: Subduction boundary and Convergent Boundary

Madrid Missouri: Reverse faultline

* 1. Compare the plate boundary type with the magnitude of the earthquake for each case study. What do you notice?

1. Compare the tsunamis
   1. Which earthquakes formed tsunamis?

Chile, Sumatra, Lisbon, Japan 2011

* + 1. Which countries were affected by the tsunami for each case study?

-Chile Hawaii, California

-Sumatra, hit other countries near indonesia.

* 1. Which earthquakes didn’t have tsunamis? Why?

1. What things were learned from each case study (these will be different for each one)? (describe how the earthquake affected knowledge on the following: tsunami preparedness, Lawson report, earthquake prediction, tsunami travel, earth movement, etc.)

San Francisco: Caused people to notice that ground seemed to stretch and snap

Japan Kobe: Their city was ill prepared, and didn’t have proper codes, and a poor response.

Chile 1960:

Sumatra 2004: Tsunami moved along the bottom of the ocean, with little ways to combat it.

Tangshan China:

Lisbon 1755: People fled on boats, and were wrecked by tsunami, brought people away from god due to it being on all saints day.

Japan 2011: Landslides

Haiti Chile: Better Building Codes.

Madrid Missouri: Theorized caused by Glaciers

1. Describe unique aspects (these will be different for each one) about each case study (effects on government, survivor stories, preparedness, mitigation after, etc).

San Francisco: Guy started Bank of America, offered loans for rebuilding San Francisco

Japan Kobe:

Chile 1960: Massive Tsunami hit the country, other parts on west coast

Sumatra 2004: Improved building strategies and better alarms.

Tangshan China:

Lisbon 1755: Cool guy rebuilt Lisbon and got fires put out, chucked dead bodies in ocean, Nature vs God.  
Japan 2011:

Haiti Chile: A lot of unrest spawned compared to working together

Madrid Missouri: Happened a super long time ago

1. Discuss the miracles that occured during and after the Tuhoku Japan Earthquake. (See this talk <https://www.churchofjesuschrist.org/study/ensign/2018/02/young-adults/he-would-deliver-us?lang=eng)>

Right before, mission moved to somewhere safe from earthquake