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Earthquake: Where the Fault Lies
Due at the end of class today or by 9/29

Questions to answer before/during/after the film:

- 1) How is the North America-Pacific plate boundary different in and around the San Francisco Bay Area than in the rest of the state of California?

- 2) Name at least 3 of the major faults in the Bay Area region.

- 3) Which fault do scientists currently think is the most dangerous in the Bay Area?

- 4) Why is the Hayward fault considered so dangerous?

- 5) About how much offset on the Hayward fault is expected near the epicenter of the next large earthquake?

- 6) How big is a “large” earthquake in Richter magnitude?

- 7) Where is the most dangerous section of the San Andreas fault?

- 8) How long did the 1989 Loma Prieta earthquake last (i.e., how long did it take to do all the damage you see in this video, including the collapse of a section of the Bay Bridge, sections of Cypress Freeway in Oakland, and buildings in the Marina district of San Francisco)?

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Questions to answer after the film:

- 9) What kind of evidence on the ground is there for the faults discussed in this film?
List as many pieces of evidence as you can from both rural and urban areas.
- 10) What is the difference between a creeping segment of a fault and a locked segment of a fault?
- 11) Can a creeping section of a fault produce a large earthquake?
- 12) A huge increase in the population in the Bay Area and the development of the majority of the infrastructure (buildings, rail, roads, power and water lines, etc.) in the Bay Area occurred during the 20th century. This growth in the Bay Area coincided with a relatively quiet period of seismicity (few large earthquakes) along the faults in the region. Why is this a cause of concern today? Discuss all three aspects of this question — the large population, the dated infrastructure, and predictions for large earthquakes in the future.

You can find information about earthquake safety and risks in the Bay Area on the Association of Bay Area Governments web site mentioned at the end of this film: <http://quake.abag.ca.gov>. Information on current earthquake activity can be found on the U.S. Geological Survey's web site: <http://earthquake.usgs.gov>.