

EARTHQUAKE

Directed by Mark Robson

First Shown 1974

Color

123 minutes

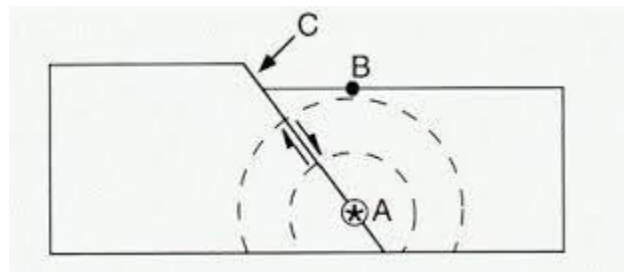
Rated PG

Questions to be answered during the video:

1. In what city does the earthquake take place?
2. What did the two men have to do to the dam after the earthquake?
3. What was the strength of the first earthquake?
4. What scale is used to measure earthquakes?
5. On what instrument at the seismological institute are earthquakes measured?
6. How big does Russell predict the next big earthquake will be, and when?
7. What geological feature was Adams on when he died?
8. What did the governor put on active duty status?
9. How does Mrs. Brian know something is about to happen?
10. What was wrong with the man who went to turn off the gas?
11. Why did the men want to open the valves on the dam?
12. What are some of the dangers after an earthquake?
13. What is the military doing when they are put on the streets?
14. What are they worried about happening at the dam, after the earthquake that might cause the dam to collapse?
15. Where do the police check for blood?
16. Why do the escalators work in the shelter?
17. How do they know that there is trouble with the dam, after the aftershocks but before the leaks?
18. According to the film, what places are safe during an earthquake?

19. Where is a very unsafe place to be during a quake?
20. Do you think that this movie is an accurate portrayal of what would happen during an earthquake?
21. What do you think cities should do to plan for earthquakes?
22. If you lived in an earthquake zone, you should make an earthquake emergency bag. What do you think should be stored in that bag, considering that all water and power will be off for at least the next three days after an earthquake?
23. Match the following to the diagram:

i) epicenter ii) fault iii) focus vi) seismic waves



Locate an Earthquake Epicenter

When an earthquake occurs seismic waves are sent out in all directions. Earthquake waves come in three main types: P-waves (primary); S-waves (secondary); and L-waves (surface). These waves travel at different speeds:

P-waves being fastest, S-waves being next fastest, and L-waves the slowest. By knowing the time difference between when any two types of earthquake waves arrive at any particular place you can deduce how far away the earthquake epicenter is. By contacting other seismographic stations it is possible to determine where the earthquake occurred.

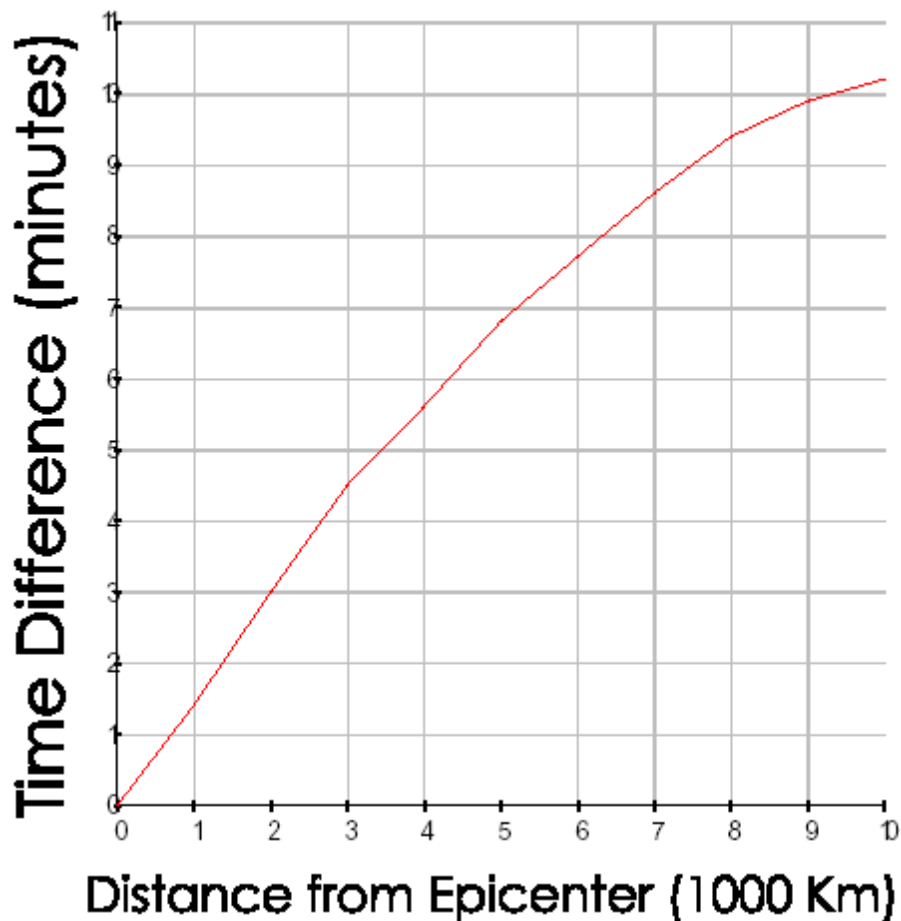
In this activity you will use seismographic data and a compass to find the epicenter of an

earthquake.

Procedure:

1. Calculate the time difference for when the waves were received at each station.
 2. Use the Graph to find the distance from the station to the epicenter.
 3. Using the scale on the map, draw a circle around each station, with a radius of the circle equal to that station's distance from the epicenter.
 4. Mark the point of intersection for all circles: this is where the earthquake occurred.
- P-wave arrival S-wave arrival

Earthquake Waves & Distance



Seismograph Station Data

Station A:

P-wave arrival: 10:05 AM

S-wave arrival: 10:08 AM

Station B:

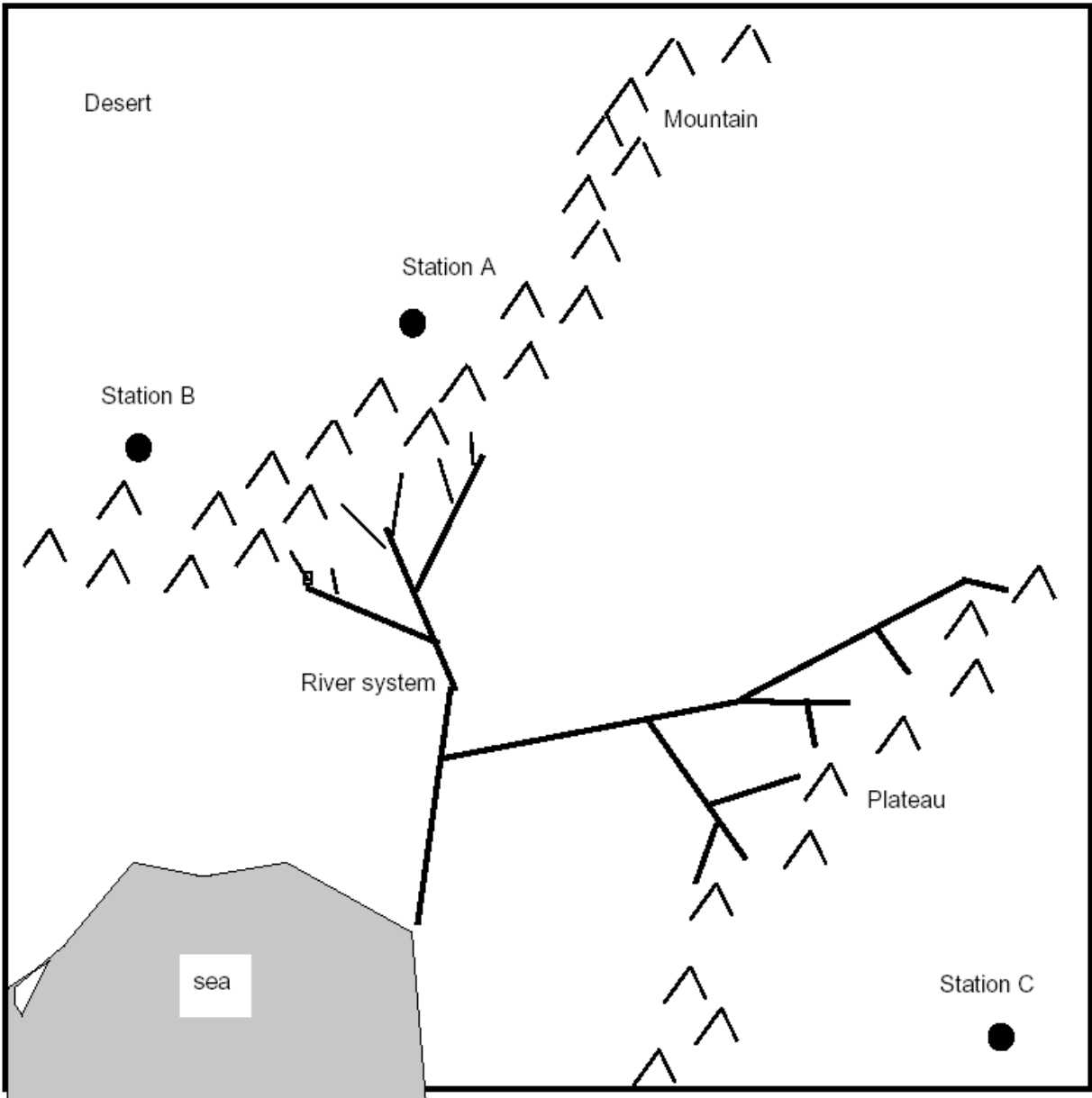
P-wave arrival: 10:10 AM

S-wave arrival: 10:14:30 AM

Station C:

P-wave arrival: 10:13 AM

S-wave arrival: 10:20 AM



Scale (kilometers)

[0-----[500-----[1000-----[2000-----[3000-----[4000-----[5000-----[6000-----[7000