

# QUAKE METERS

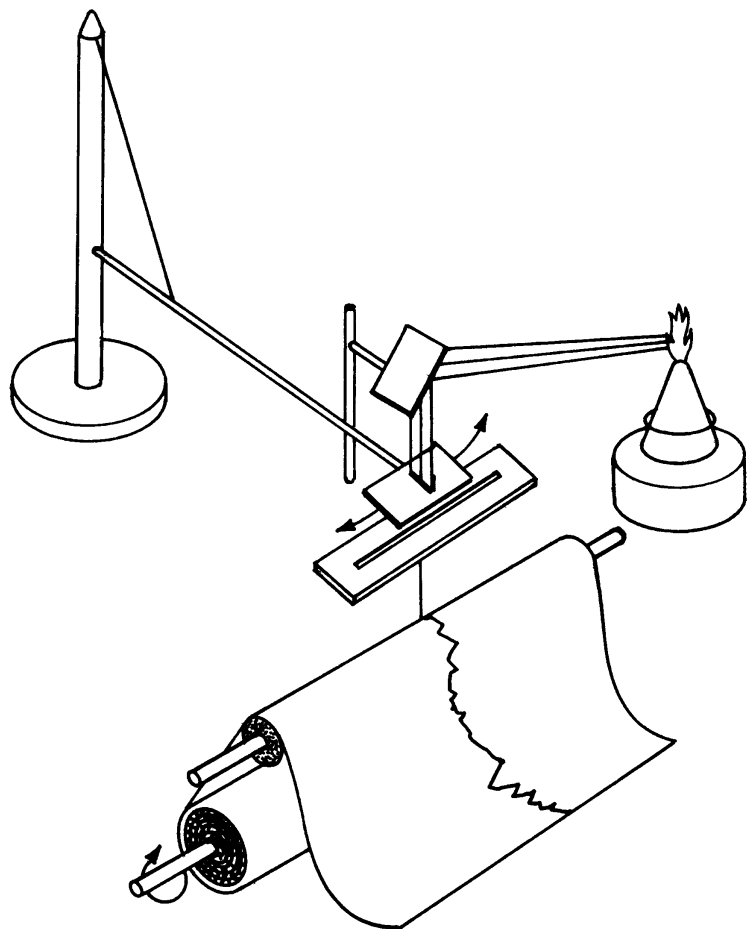
**Making the Connection:** New technologies have made earthquake prediction more accurate.

Nobody wants to wait around for an earthquake to happen. A bad one can destroy homes. Sometimes lives are lost. For years, people have been trying to predict earthquakes. In many cases, they have been wrong. Little by little, they have gotten better at it.

Vibrations coming from the ground provide one of the clues that help scientists predict an earthquake. About a hundred years ago, scientists began measuring such vibrations with a device like the one shown in this picture. It is called a seismograph.

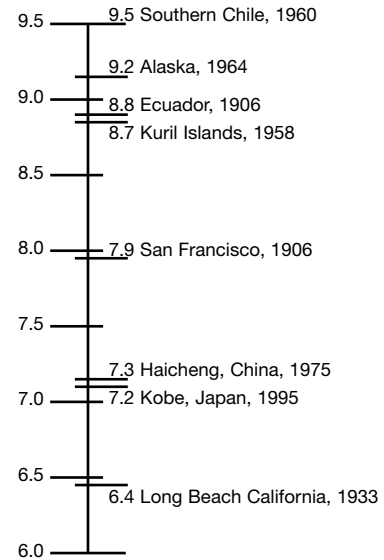
This seismograph is a pole with a string hanging from it. Attached to the string is a weighted stick. The weighted stick shakes when the ground vibrates. A mirror attached to the stick sends light rays to a moving roll of paper. The paper keeps a record of all the Earth's vibrations.

In 1975, Chinese scientists used a more complicated seismograph to help predict a large earthquake just two days before it happened. Because of their warning, 90,000 people left the area. It was a good thing that they did. The earthquake destroyed 90 percent of the area's buildings. Maybe one day scientists will be able to predict every earthquake before it happens.



Work alone or with a partner to answer the following questions and to share your ideas about earthquakes and seismographs.

1. Scientists measure earthquakes with the Richter Scale. The scale runs from below 0 to over 9. An earthquake of 4 or less usually does not do much damage. An earthquake over 8 is one of the worst that can happen. Some famous earthquakes are shown on the scale.



a. Which is the worst earthquake shown here?

\_\_\_\_\_

b. How many points on the Richter Scale did the San Francisco earthquake register? How many more was this over the earthquake in Long Beach?

\_\_\_\_\_

c. How many more points would the Haicheng earthquake have to register to be like the Chilean earthquake?

\_\_\_\_\_

d. Earthquakes 4.0 and below usually do little damage. How many points more than 4.0 did the San Francisco earthquake register?

\_\_\_\_\_

2. Show your earthquake knowledge by matching the terms. Draw lines to connect them. Don't worry, this is not a test.

- |             |                      |
|-------------|----------------------|
| seismograph | vibration            |
| fault       | measures earthquakes |
| earthquake  | crack                |
| tremor      | violent eruption     |

3. Where would an earthquake do more damage? In the city or in the country? Explain your answer.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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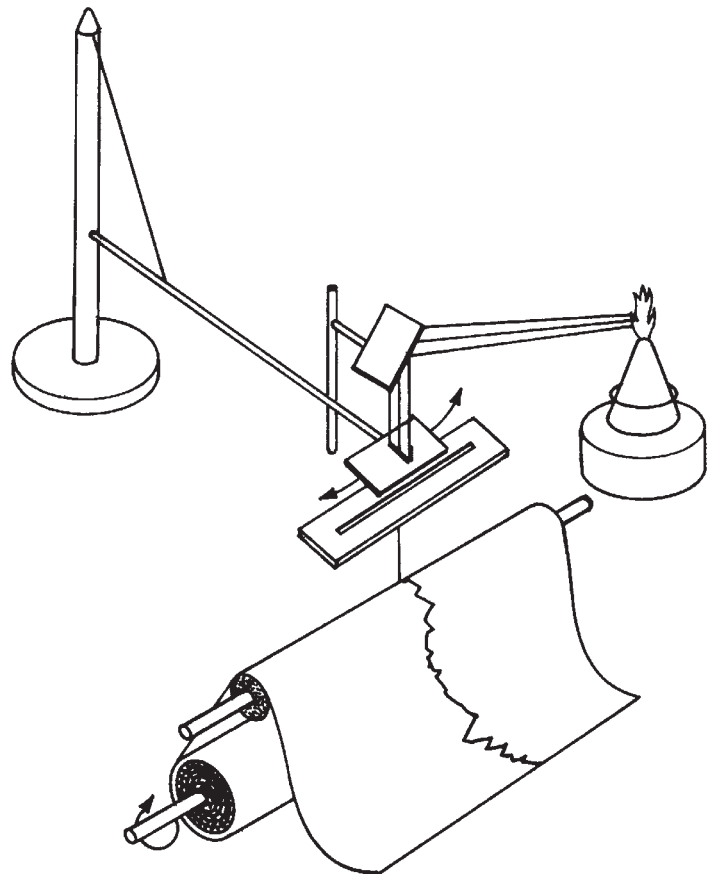
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Name \_\_\_\_\_ Date \_\_\_\_\_

1. Scientists measure earthquakes with the Richter Scale. The scale runs from below 0 to over 9. An earthquake of 4 or less usually does not do much damage. An earthquake over 8 is one of the worst that can happen. Some famous earthquakes are shown on the scale.

a. Which is the worst earthquake shown here?

**Southern Chile, 1960**

b. How many points on the Richter Scale did the San Francisco earthquake register? How many more was this over the earthquake in Long Beach?

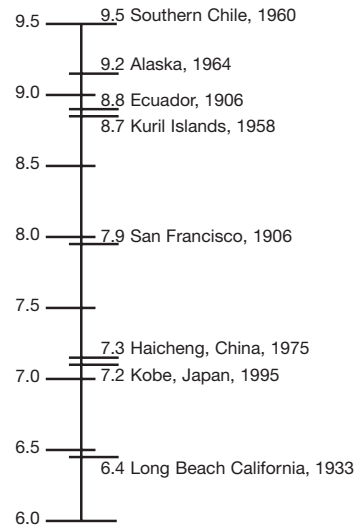
**7.9, 1.5**

c. How many more points would the Haicheng earthquake have to register to be like the Chilean earthquake?

**2.2**

d. Earthquakes 4.0 and below usually do little damage. How many points more than 4.0 did the San Francisco earthquake register?

**3.9**



2. Show your earthquake knowledge by matching the terms. Draw lines to connect them. Don't worry, this is not a test.

seismograph — vibration  
fault — measures earthquakes  
earthquake — crack  
tremor — violent eruption

3. Where would an earthquake do more damage? In the city or in the country? Explain your answer.

**Answers will vary.**

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