

When an earthquake occurs, energy is released inside the Earth, creating seismic waves. These waves are recorded using a device called a seismograph, which produces lines showing the height of the waves. Scientists first measure the earthquake using the Richter scale, which calculates the magnitude based on wave amplitude. After further study, they use the Moment Magnitude Scale, which gives a more accurate result by considering the size of the fault, movement along the fault, and the strength of rocks. Finally, scientists measure how people feel the earthquake and the damage it causes using the Modified Mercalli Scale, which ranges from I (not felt) to XII (total destruction).

Multiple Choice Questions (MCQ)

1. What is produced when an earthquake happens?
 - A. Light waves
 - B. Seismic waves
 - C. Sound waves
 - D. Heat waves
2. Which device records earthquake waves?
 - A. Thermometer
 - B. Barometer
 - C. Seismograph
 - D. Microscope
3. What does the Richter scale measure?
 - A. Damage level
 - B. Temperature
 - C. Magnitude
 - D. Speed
4. What does the seismograph show?
 - A. Temperature
 - B. Wave height (amplitude)
 - C. Wind speed
 - D. Rock type
5. Which scale gives a more accurate measurement of energy released?
 - A. Mercalli Scale
 - B. Richter Scale
 - C. Moment Magnitude Scale
 - D. Celsius Scale
6. Which factor is NOT used in the Moment Magnitude Scale?
 - A. Size of the fault
 - B. Rock strength
 - C. Wave color
 - D. Movement along the fault
7. What does the Mercalli Scale measure?
 - A. Energy only
 - B. Earth's layers

- C. Effects and damage
 - D. Wave speed
8. What does level XII on the Mercalli Scale mean?
- A. Not felt
 - B. Weak shaking
 - C. Strong shaking
 - D. Total destruction
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 **Critical Thinking Questions**

1. Why do scientists use more than one scale to measure earthquakes?
 2. Which scale do you think is more useful for people living in a city? Why?
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 **Fill in the Blanks**

Word Bank: (seismic waves – seismograph – Richter – Mercalli – magnitude)

1. Earthquakes produce _____ inside the Earth.
2. A _____ records earthquake waves.
3. The _____ scale measures magnitude.
4. The _____ scale measures damage and effects.
5. Magnitude tells us how strong the _____ is.