

SECTION 19.3 *Measuring and Locating Earthquakes*

In your textbook, read about earthquake magnitude and intensity.

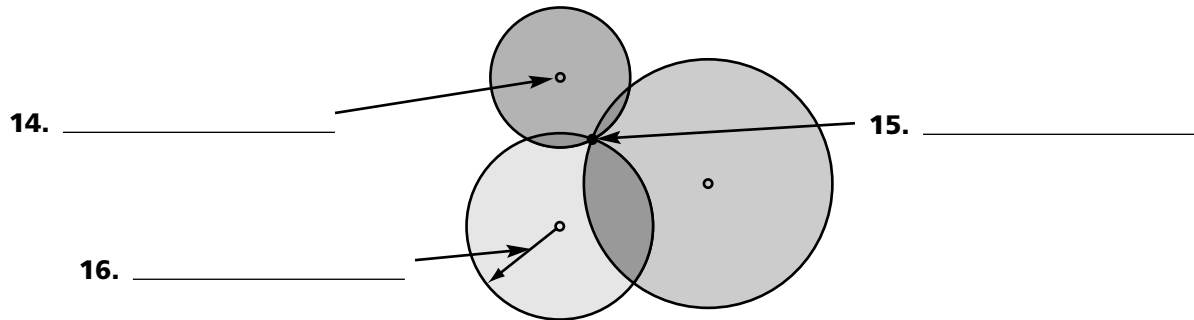
Circle the letter of the choice that best completes the statement.

- The amount of energy released by an earthquake is measured by its
 - amplitude.
 - magnitude.
 - focus.
 - intensity.
- The Richter scale is a numerical scale used to describe an earthquake's
 - intensity.
 - amplitude.
 - probability.
 - magnitude.
- Each whole-number increase on the Richter scale corresponds to a 32-fold increase in
 - seismic energy.
 - magnitude.
 - probability.
 - intensity.
- The moment magnitude scale takes into account the size of an earthquake's
 - epicenter.
 - fault rupture.
 - probability.
 - intensity.
- Moment-magnitude values can be estimated from the
 - P-wave arrival time.
 - S-wave arrival time.
 - surface wave arrival time.
 - seismic wave size.
- The amount of damage done to structures by an earthquake is the earthquake's
 - intensity.
 - amplitude.
 - probability.
 - seismic gap.
- The modified-Mercalli scale measures an earthquake's
 - intensity.
 - seismic gap.
 - probability.
 - magnitude.
- The modified-Mercalli scale ranges from
 - 0 to 100.
 - 1 to 10.
 - I to XII.
 - VI to XXI.
- Earthquake intensity depends primarily on the height of
 - P-waves.
 - S-waves.
 - surface waves.
 - the fault.
- As the distance from a quake's epicenter increases,
 - intensity increases.
 - intensity decreases.
 - magnitude increases.
 - the focus decreases.
- Maximum earthquake intensity is usually found at the earthquake's
 - epicenter.
 - shadow zone.
 - seismic gap.
 - focus.
- One factor that determines the strength of an earthquake is the depth of its
 - epicenter.
 - epicentral distance.
 - magnitude.
 - focus.
- The focus of a catastrophic earthquake with high intensity values is almost always
 - deep.
 - shallow.
 - difficult to determine.
 - below the point of initial rock failure.

SECTION 19.3 *Measuring and Locating Earthquakes, continued*

In your textbook, read about how scientists locate an earthquake's epicenter.

Label the diagram below. Choose from the following: *epicenter, epicentral distance, seismic station*.



Answer the following questions.

- 17.** To determine an epicentral distance, scientists consider the arrival times of what wave types?

- 18.** Can the location of an epicenter be determined from the distance between one seismic station and the epicenter? If not, what information is needed?

In your textbook, read about Earth's seismic belts.

Use each of the terms below just once to complete the passage.

Circum-Pacific Belt	boundaries	tectonic plates
Mediterranean-Asian Belt	ocean ridges	seismic belts

Most earthquakes occur in narrow **(19)** _____ that lie between large regions with little or no seismic activity. Seismic activity in seismic belts is a result of movements among Earth's **(20)** _____. Most earthquakes occur near the **(21)** _____ of tectonic plates. Nearly 80 percent of earthquakes occur in the seismic belt known as the **(22)** _____. About 15 percent of all earthquakes occur in the **(23)** _____, which stretches across Europe and Asia. Most other earthquakes occur on the crests of **(24)** _____.