

Chapter 22 Earth's Interior

Section 22.5 Earthquakes

(pages 684–689)

This section explains what earthquakes are, what causes them, and their effects.

Reading Strategy (page 684)

Building Vocabulary Copy the table on a separate sheet of paper and add more rows as needed. As you read, define each term for this section in your own words. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Earthquake Terms	
Vocabulary Terms	Definitions
Earthquake	
Seismic waves	
Stress	

1. An earthquake releases _____ energy that is carried by vibrations called _____.

Stress in Earth's Crust (page 685)

2. Name three ways that stress can affect rocks.

- a. _____
 b. _____
 c. _____

3. Is the following sentence true or false? Stress from moving tectonic plates produces faults and folds in Earth's crust. _____

Match each result of stress to its characteristics. Each result will have more than one characteristic.

Result of Stress	Characteristic
_____ 4. fault	a. A bend in layers of rock
_____ 5. fold	b. Many occur along plate boundaries
	c. A break in a mass of rock where movement happens
	d. Forms where rocks are squeezed but do not break

6. Is the following sentence true or false? Rocks tend to fold instead of break under low temperature or pressure. _____

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Earthquakes and Seismic Waves (pages 686–687)

7. Why do earthquakes occur? _____

8. Is the following sentence true or false? The location underground where an earthquake begins is called the focus.

9. The location on Earth's surface directly above the focus of an earthquake is called the _____.
10. Circle the sentences that are true about the physics of earthquakes.
- a. Stress builds in areas where rocks along fault lines snag and remain locked.
 - b. In an earthquake, rocks break and grind past each other, releasing energy.
 - c. Potential energy is transformed into kinetic energy in the form of seismic waves.
 - d. Potential energy increases as rocks break and move.

Match each type of seismic wave to its characteristic.

Seismic Waves	Characteristic
_____ 11. P waves	a. Transverse waves that cannot travel through liquids
_____ 12. S waves	b. Slowest moving type of wave that develops when seismic waves reach Earth's surface
_____ 13. surface waves	c. Longitudinal waves similar to sound waves that cause particles in the material to vibrate in the direction of the waves' motion

14. Typically, the first seismic waves to be detected at a distance are _____ waves.

Measuring Earthquakes (page 687)

15. What devices do geologists use to record seismic waves? _____

Seismographic Data (page 689)

16. Most earthquakes are concentrated along _____.
17. Is the following sentence true or false? Some earthquakes will occur in the interior of plates. _____
18. Is the following statement true or false? When seismic waves interact with boundaries between different kinds of rock within Earth, they can be reflected, refracted, or diffracted.
