SECTION 19.2 *Seismic Waves and Earth's Interior*

Complete the table by filling in the type or types of seismic waves described.

Seismic Waves

Description	Type of Seismic Wave
15. Causes rock to move both up and down and from side to side	
16. Causes rock to move at right angles to the direction in which the wave travels	
17. Squeezes and pulls rock in the same direction as the wave travels	
18. Can pass through Earth's interior	
19. Travels only along Earth's surface	

For each statement below, write *true* or *false*.

_____ **5.** Seismic waves change speed and direction when they encounter different materials.

_____ **6.** P-waves travel through Earth's mantle.

_____ **7.** S-waves do not travel through Earth's mantle.

_____ **8.** Surface waves are the first to arrive at a seismic facility.

_____ **9.** P-waves are bent when they strike the core.

_____ **10.** On seismograms, seismic waves recorded from more distant facilities are closer together than those recorded from facilities close to the epicenter.

_____ **11.** S-waves do not enter the core because they cannot travel through solids.

_____ **12.** Seismologists have reasoned that Earth's outer core must be liquid based on the disappearance of S-waves.

_____ **13.** Studies of how waves reflect deep inside Earth show that Earth's inner core is solid.

_____ **14.** The P-wave shadow zone does not receive direct P-waves.

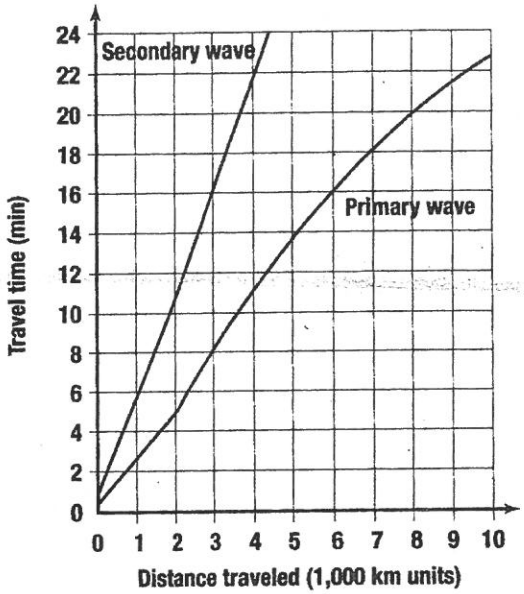
Name Date Class

SECTION 2 Reinforcement

Features of Earthquakes

Chap 19
R-2015

Directions: *The graph below shows travel time in minutes and distance traveled for primary and secondary waves. Primary and secondary waves start at the same time but do not travel at the same speed. Study the graph. Use the graph to help answer the questions that follow.*



1. How long does it take for a primary wave to travel 2,000 km?

2. How long does it take for a secondary wave to travel 2,000 km?

3. How far does a secondary wave travel in 10 min?

4. How far does a primary wave travel in 10 min?

5. What happens to the time difference between primary and secondary waves as the distance traveled gets longer?

6. Suppose a primary and secondary wave both travel a distance of 4,000 km before they are picked up by a seismograph. Which wave will arrive first?

7. How much time lag at 4,000 km will there be between these two waves?

8. Suppose both a primary and secondary wave start together and travel for 5 min. Which wave will travel farther?

Meeting Individual Needs