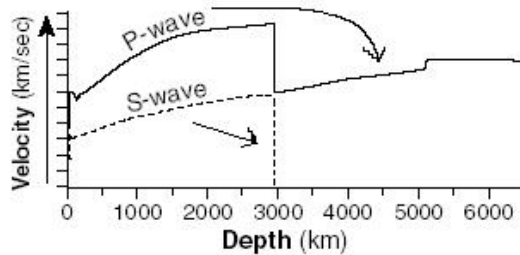


WAVES! Practice

1.



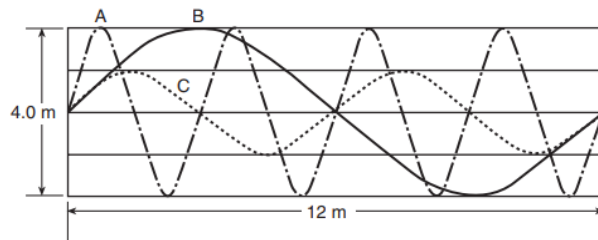
The graph to the left shows the different velocities of *P*-waves and *S*-waves through Earth's interior.

Mark the layers of the Earth on the graph.

2. Describe a primary seismic wave (p-wave).

Describe a secondary seismic wave (s-wave).

3. Three waves, A, B, and C, travel 12 meters in 2.0 seconds through the same medium as shown in the diagram below.



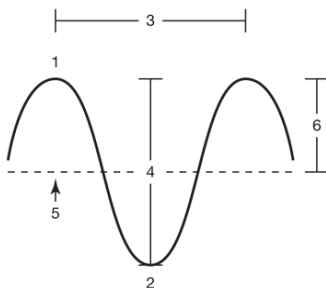
What is the amplitude of wave C?

What is the amplitude of wave A?

What is the speed of wave B?

What is the speed of wave A?

4.



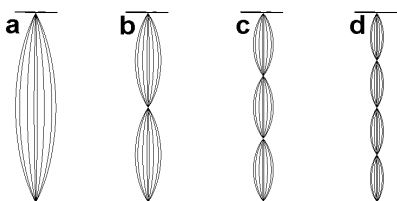
A group of students investigated the properties of vibration waves.

a) identity of each numbered area in the diagram

b) how a change in frequency would affect the relationship between numbered areas 1 and 3

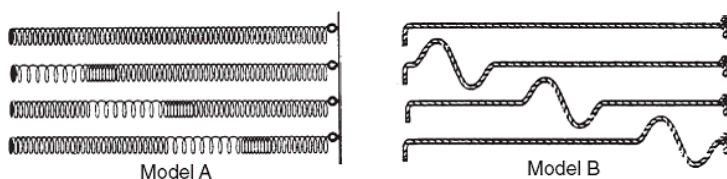
5. Radio waves from an FM station have a frequency of 95,000,000 Hz. If the waves travel with a speed of 300,000,000 m/s, what is the wavelength?
6. A periodic wave has a wavelength of 0.58 m and a speed of 14 m/s. What is the wave frequency?

The pictures below represent vibrating guitar strings.



7. Which picture shows a guitar string with one wavelength?
 a. Picture A b. Picture B c. Picture C d. Picture D

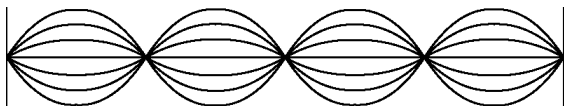
8.



Model A best represents the motion of earthquake _____ waves and Model B best represents the motion of earthquake _____ waves.

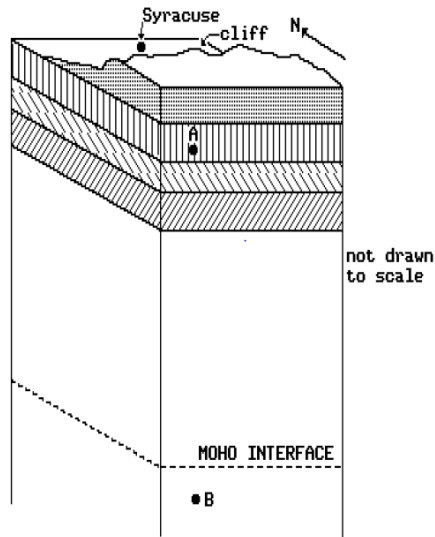
- a. primary; secondary c. secondary; surface
- b. primary; surface d. secondary; primary

9. Compared to the oceanic crust, the continental crust is usually
 a. thinner, with a more dense basaltic composition
 b. thinner, with a less dense granitic composition
 c. thicker, with a less dense granitic composition
 d. thicker, with a more dense basaltic composition

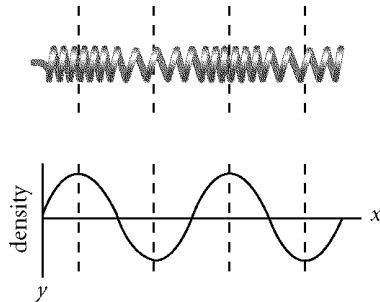
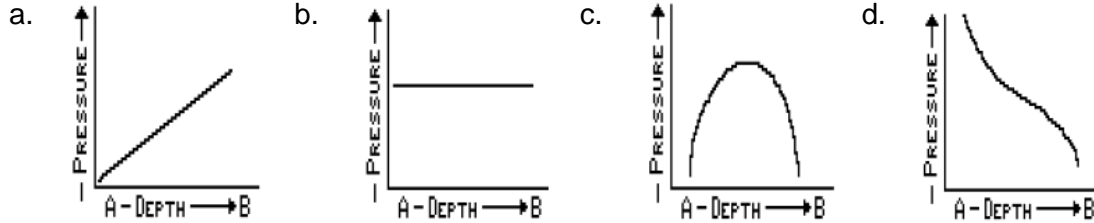


10. How many nodes and antinodes are shown in the standing wave above?
 a. four nodes and four antinodes c. four nodes and five antinodes
 b. four nodes and three antinodes d. five nodes and four antinodes

11. The diagram below is a block section of central New York State that extends deep into the Earth's interior. Points A and B represent reference points within the Earth.



Which graph best represents the relationship between pressure and depth from point *A* to point *B*?



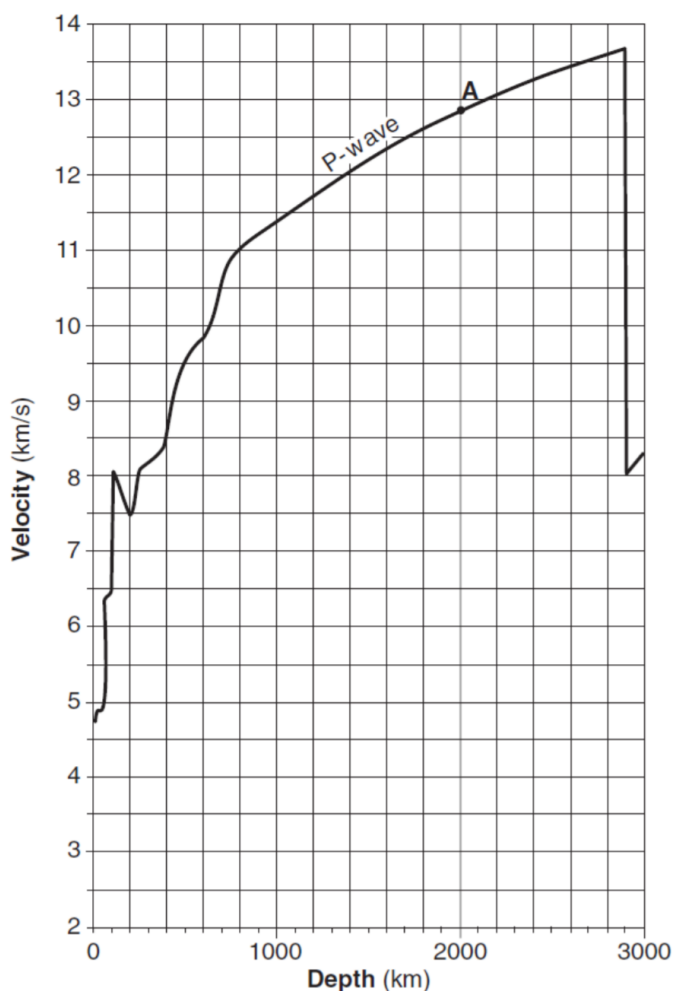
- _____ 12. Each compression in the waveform of the longitudinal wave shown above corresponds to what feature of the transverse wave below it?
- a. wavelength b. crests c. troughs d. amplitude
- _____ 13. Each stretched region in the waveform of the longitudinal wave shown above corresponds to what feature of the transverse wave below it?
- a. wavelength b. crests c. troughs d. amplitude
14. The data table shows the velocity of seismic S-waves at various depths below Earth's surface. The graph shows the velocity of seismic P-waves at various depths below Earth's surface.

Data Table

Depth Below Surface (km)	0	100	200	700	800	1800	2900
S-Wave Velocity (km/s)	2.8	4.5	4.2	5.3	6.2	7.0	7.4

On the graph below, plot the S-wave velocity at each depth given on the data table. Connect the plots with a line.

Label the layers of the Earth that show on the graph.



What property of Earth's interior causes the S-waves to stop at 2900 km, but allows the P-waves to continue?