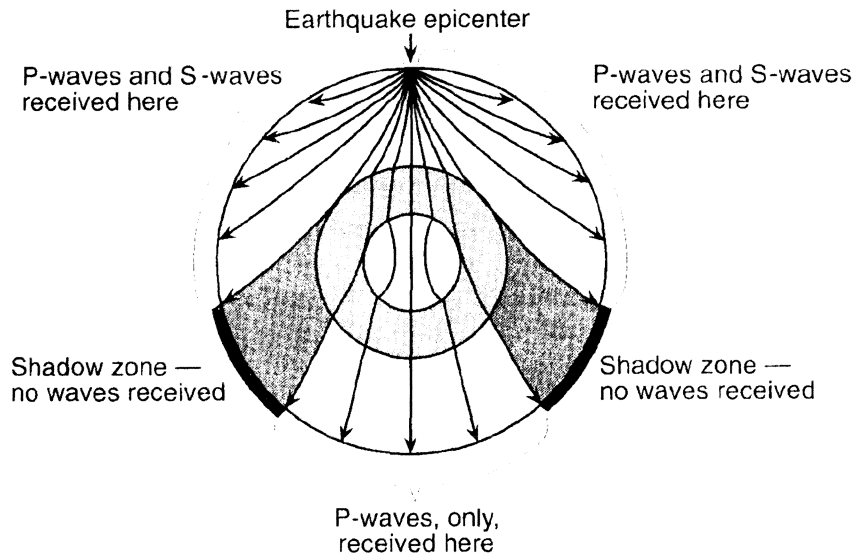


1. Base your answer to the following question on the cross section below, which shows the paths of seismic waves traveling from an earthquake epicenter through the different layers of Earth's interior.

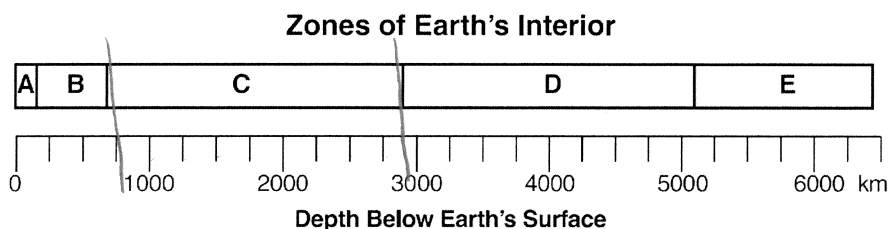


No *P*-waves or *S*-waves are received in the shadow zone because

- A) *P*-waves are absorbed and *S*-waves are refracted by Earth's outer core  
 B) *P*-waves are refracted and *S*-waves are absorbed by Earth's outer core  
 C) both the *P*-waves and *S*-waves are refracted by Earth's outer core  
 D) both the *P*-waves and *S*-waves are absorbed by Earth's outer core
- 
2. Which part of Earth's interior is inferred to have convection currents that cause tectonic plates to move?  
 A) rigid mantle      B) asthenosphere  
 C) outer core      D) inner core
3. Earth's outer core is best inferred to be  
 A) liquid, with an average density of approximately 4 g/cm<sup>3</sup>  
 B) liquid, with an average density of approximately 11 g/cm<sup>3</sup>  
 C) solid, with an average density of approximately 4 g/cm<sup>3</sup>  
 D) solid, with an average density of approximately 11 g/cm<sup>3</sup>
4. Why is Earth's outer core inferred to be a liquid?  
 A) *P*-waves can pass through the outer core.  
 B) *P*-waves cannot pass through the outer core.  
 C) *S*-waves can pass through the outer core.  
 D) *S*-waves cannot pass through the outer core.
5. The rock between 2,900 kilometers and 5,200 kilometers below the Earth's surface is inferred to be  
 A) an iron-rich solid      B) an iron-rich liquid  
 C) a silicate-rich solid      D) a silicate-rich liquid
6. The fact that *S*-waves are unable to travel through the Earth's outer core supports the inference that the outer core is  
 A) composed of iron and nickel  
 B) more dense than the inner core  
 C) hotter than the rock's melting point  
 D) in the solid state of matter
7. In the Earth's interior, which zone has a temperature higher than its melting point?  
 A) crust      B) stiffer mantle  
 C) inner core      D) outer core

## Earth's Interior

8. Base your answer to the following question on the diagram below, which represents zones of Earth's interior, identified by letters *A* through *E*. The scale shows depths below Earth's surface, measured in kilometers.



What is the approximate thickness of zone *C*?

- A) 650 km      B) 1600 km      C) 2250 km      D) 2900 km

9. Compared to Earth's continental crust, Earth's oceanic crust is

- A) thinner and more dense  
B) thinner and less dense  
C) thicker and more dense  
D) thicker and less dense

10. The basaltic bedrock of the oceanic crust is classified as

- A) felsic, with a density of 2.7 g/cm<sup>3</sup>  
B) felsic, with a density of 3.0 g/cm<sup>3</sup>  
C) mafic, with a density of 2.7 g/cm<sup>3</sup>  
D) mafic, with a density of 3.0 g/cm<sup>3</sup>

11. The inferred temperature and pressure of Earth's interior at a depth of 3,000 kilometers are approximately

- A) 1000°C and 0.5 million atmospheres  
B) 1000°C and 1.0 million atmospheres  
C) 5000°C and 1.5 million atmospheres  
D) 5000°C and 3.0 million atmospheres

12. What happens to the density and temperature of rock within Earth's interior as depth increases?

- A) density decreases and temperature decreases  
B) density decreases and temperature increases  
C) density increases and temperature increases  
D) density increases and temperature decreases

13. The pressure at the interface between the mantle and the outer core of Earth is inferred to be approximately

- A) 1.0 million atmospheres  
B) 1.4 million atmospheres  
C) 3.0 million atmospheres  
D) 3.4 million atmospheres

14. Andrija Mohorovicic discovered the interface between the crust and the mantle that is now named for him. His discovery of the "Moho" was based on analysis of

- A) landscape boundaries    B) continental coastlines  
C) erosional surfaces      D) seismic waves