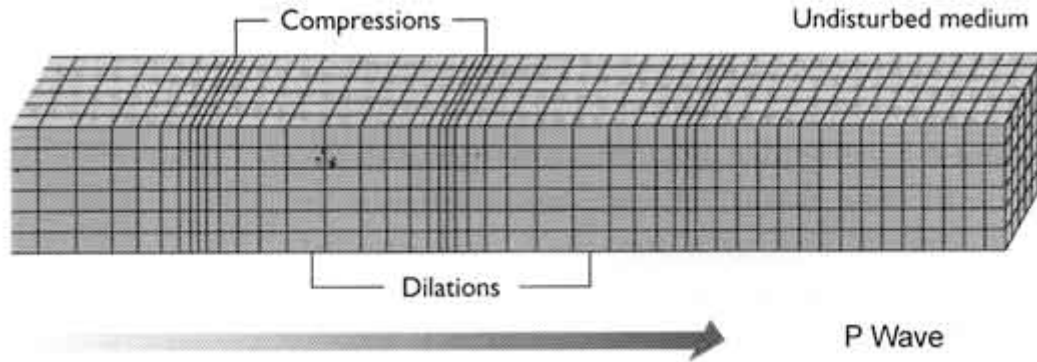


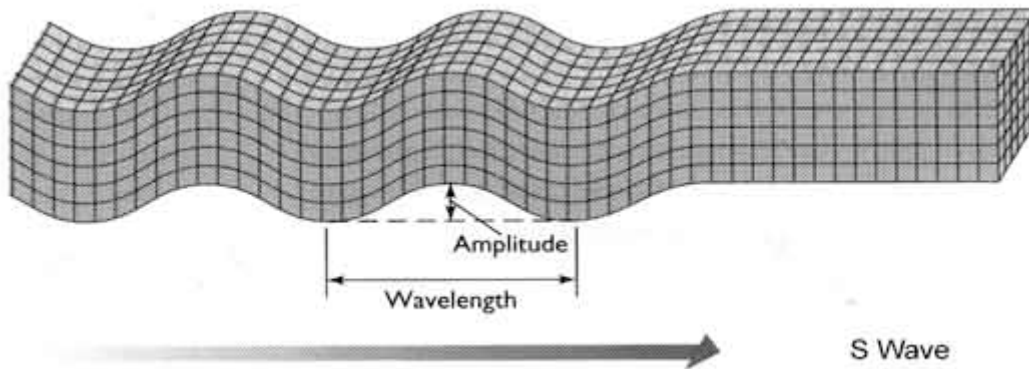
Name _____ Date _____ Block _____

Types of Earthquake Waves Notes

There are 3 main types of earthquake waves. Two of the three propagate within a body of rock. The fastest of these body waves are called primary or P wave. The motion of the wave is similar to sound wave. It has a compression and dilations within the rock. These P waves can through through both solid and liquid rock, and the oceans.



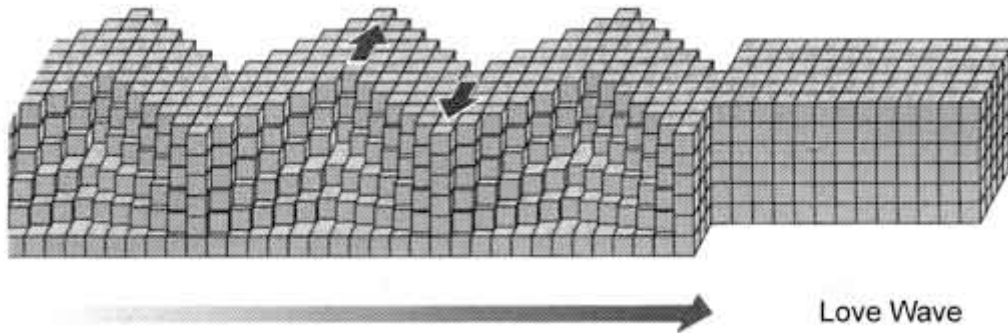
The slower body wave is called a secondary or S wave. As the S wave propagates, it shears the rock sideways at right angles to the direction of travel. Liquid can not spring back when they are twisted, so S waves can not propagate through the liquid part of the Earth, or oceans and lakes.



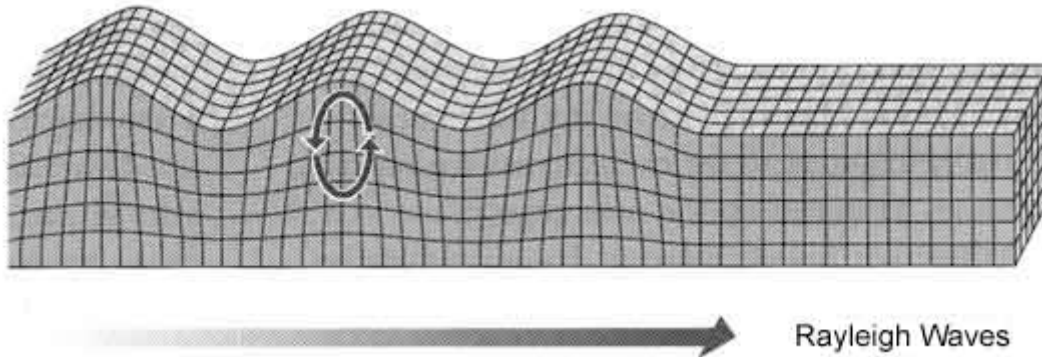
What determines the SPEED of the waves? The density and elastic properties of the rock and soil through which it travels. The P wave feels like a sonic boom that bumps and rattles the windows. The S wave is up-and-down and side-to-side motion, that caused damages to structures.

The third type of earthquake wave is called a surface wave, due to the wave motion is restricted to near the ground surface. Such waves correspond to ripples of water that travel across a lake.

Surface waves can be divided into 2 types. The first is called a Love wave. It is like the S wave that has NO vertical displacement. This wave is especially damaging to the foundations of structures.



The 2nd type of surface wave is known as a Rayleigh wave. It is like rolling ocean waves.



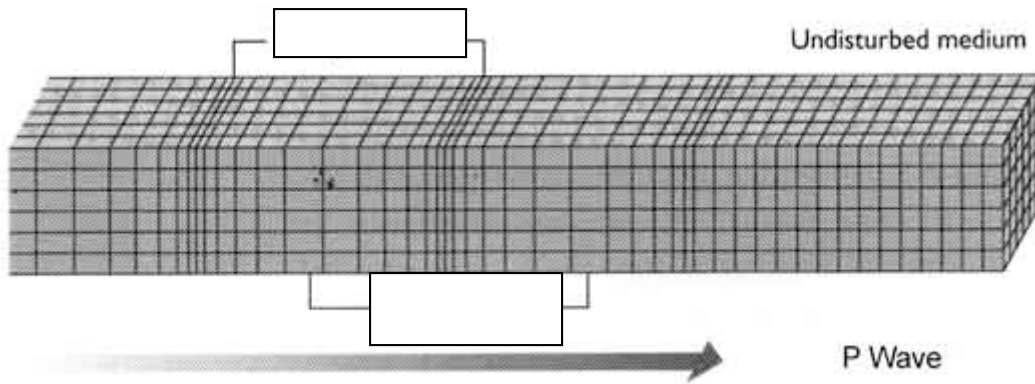
Surface waves travel more slowly than body waves (P and S); and of the two surface waves, Love waves generally travel faster than Rayleigh waves. Love waves (do not propagate through water) can affect surface water only insofar as the sides of lakes and ocean bays pushing water sideways like the sides of a vibrating tank, whereas Rayleigh waves, because of their vertical component of their motion can affect the bodies of water such as lakes.

P and S waves have a characteristic which effects shaking: when they move through layers of rock in the crust, they are reflected or refracted at the interfaces between rock types. Whenever either wave is refracted or reflected, some of the energy of one type is converted to waves of the other type.

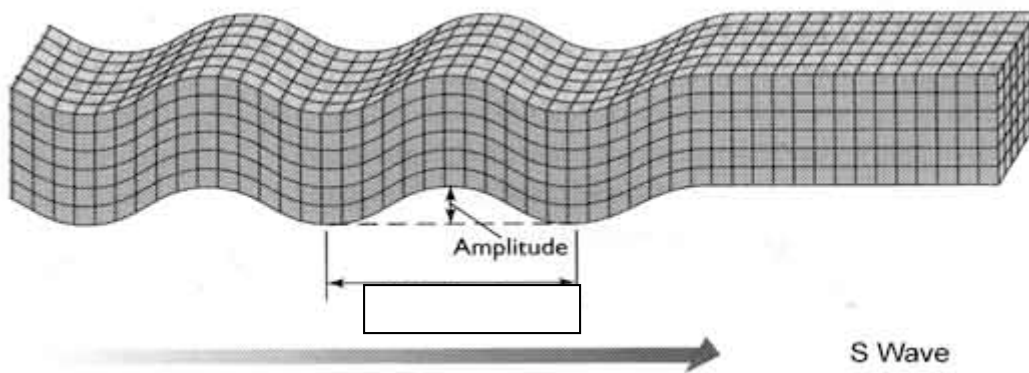
Name _____ Date _____ Block _____

Types of Earthquake Waves Notes

There are _____ main types of earthquake waves. Two of the three propagate _____ a _____ of rock. The fastest of these body waves are called _____ or _____ wave. The motion of the wave is similar to _____ wave. It has _____ and _____ within the rock. These P waves can through both _____ and _____ rock, and the oceans.



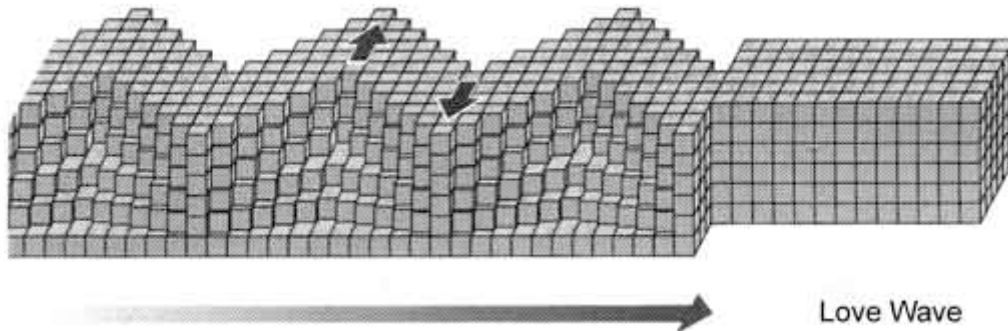
The slower body wave is called a _____ or _____ wave. As the S wave propagates, it _____ the rock sideways at _____ angles to the direction of travel. Liquids _____ spring back when they are twisted, so S waves _____ propagate through the liquid part of the Earth, or _____ and _____.



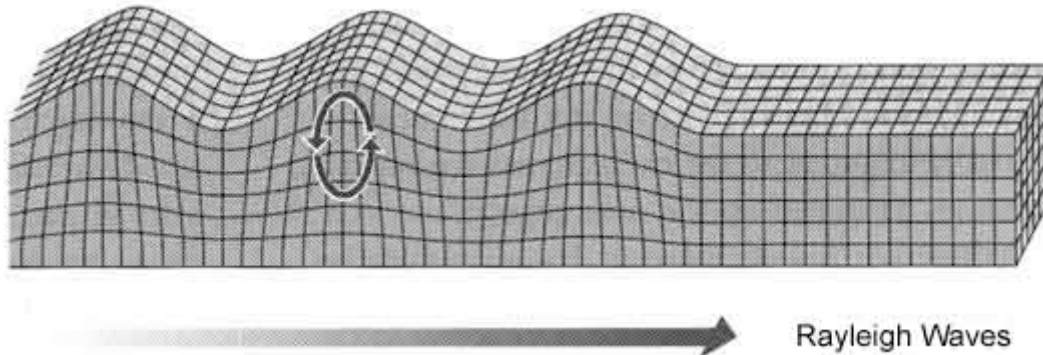
What determines the SPEED of the waves? The _____ and _____ properties of the rock and soil through which it travels. The P wave feels like a _____ that bumps and rattles the windows. The S wave is _____-and-_____ and _____-to-_____ motion, that caused damages to structures.

The third type of earthquake wave is called a _____ wave, due to the wave motion is restricted to _____ the ground surface. Such waves correspond to _____ of water that travel across a _____.

Surface waves can be divided into _____ types. The first is called a _____ wave. It is like the _____ wave that has _____ vertical displacement. This wave is especially damaging to the _____ of structures.



The 2nd type of surface wave is known as a _____ wave. It is like _____ ocean waves.



Surface waves travel _____ than body waves (____ and ____); and of the two surface waves, Love waves generally travel _____ than Rayleigh waves. Love waves (do not propagate through _____) can effect surface water only insofar as the sides of lakes and ocean bays _____ water sideways like the sides of a vibrating tank, whereas Rayleigh waves, because of their _____ component of their motion can affect the bodies of water such as lakes.

P and S waves have a _____ which effects shaking: when they move through layers of rock in the crust, they are _____ or _____ at the interfaces between rock types. Whenever either wave is refracted or reflected, some of the energy of one type _____ to waves of the other type.