

1. asthenosphere	the soft layer of the mantle on which the lithosphere floats; also known as the upper mantle	18. modeling	to simulate (a process, concept, or the operation of a system), commonly with the aid of a computer.
2. continental crust	the solid outer shell of the earth, with an average thickness of 30--35 km in continental regions forming the upper part of the lithosphere and lying immediately above the mantle	19. oceanic crust	the solid outer shell of the earth, with an average thickness of 5 km beneath the oceans, forming the upper part of the lithosphere and lying immediately above the mantle
3. convection	the slow circulation of subcrustal material, thought to be the mechanism by which tectonic plates are moved	20. outer core	A layer of molten iron and nickel that surrounds the inner core of Earth
4. crust	The layer of rock that forms Earth's outer surface	21. P-wave	a type of seismic wave that compresses and expands the ground; first waves to arrive; primary waves
5. earthquakes	the shaking that results from the movement of rock beneath Earth's surface	22. plates	A section of the lithosphere that slowly moves over the asthenosphere, carrying pieces of continental and oceanic crust
6. elastic rebound theory	states that as tectonic plates move relative to each other, elastic strain energy builds up along their edges in the rocks along fault planes; when the strain becomes too great movement occurs along the fault plane	23. reflection	the energy or wave from an earthquake that has been returned from a boundary between two different materials within the earth
7. epicenter	the point on Earth's surface directly above an earthquake's focus	24. Richter scale	a scale that rates an earthquake's magnitude based on the size of its seismic waves
8. faults	occur along plate boundaries, where the forces of plate motion push or pull the crust so much that the crust breaks	25. S-wave	a type of seismic wave that moves the ground up and down or side to side; secondary waves
9. focus	the point beneath Earth's surface when rock breaks under stress and causes an earthquake	26. seismology	the science or study of earthquakes and their phenomena.
10. gravity	the force of attraction that moves or tends to move bodies towards the center of the earth	27. surface wave	a type of seismic wave that forms when P waves and S waves reach Earth's surface; move slowly but can produce severe ground movements.
11. inner core	A dense sphere of solid iron and nickel at the center of Earth	28. thermal energy	the total energy of motion in the particles of a substance
12. intensity	a measure of the size of an earthquake based on observation of the effects of the shock at the earth's surface; specified on the Mercalli scale	29. upper mantle	the soft layer of the mantle on which the lithosphere floats; also known as the asthenosphere
13. lithosphere	A rigid layer made up of the uppermost part of the mantle and the crust; the solid portion of the earth	30. wave amplitude	the maximum displacement of the particle motions, or the height of the ripple crest; used to measure the size of an earthquake
14. lower mantle	The layer of hot, solid material between Earth's crust and core		
15. magnetic field	surrounds and permeates the Earth; its presence causes compass needles to line up in a north-south direction.		
16. magnitude	a measure of the size of an earthquake based on the quantity of energy released: specified on the Richter scale		
17. Mercalli scale	a scale that rates earthquakes according to their intensity and how much damage they cause at a particular place		