

Vocabulary: Unit 4: Plate Tectonics and Mountain Building

lithosphere	The brittle, rigid solid layer of Earth that is composed of the crust and upper mantle.
asthenosphere	Partially molten upper mantle layer that flows plastically; the lithosphere floats on top of the asthenosphere.
Continental Drift Hypothesis	The theory proposed by Alfred Wegener that the continents were moving on Earth's surface.
apparent polar wander	The imaginary movement of the Earth's magnetic poles relative to a continent while regarding the continent being studied as fixed in position; today we know that the magnetic north pole has been stationary and the continents have moved.
seafloor spreading	The formation of new areas of oceanic crust, which occurs through the upwelling of magma at mid-ocean ridges and its subsequent outward movement on either side.
subduction	The downward movement of the edge of a plate of the Earth's crust into the mantle beneath another plate.
plate tectonics	The movement of large slabs of oceanic or continental lithosphere on the asthenosphere due to convection currents.
divergent plate boundary	Two tectonic plates are moving away from each other
convergent plate boundary	Two tectonic plates are moving toward each other.
transform plate boundary	Two tectonic plates are sliding past each other.
continental rift	An area on a continent where two continental plates are moving away from each other.
continental volcanic arc	A range of volcanic mountains within the continental crust above a subducting plate.
volcanic island arc	A chain of volcanic islands located at a convergent tectonic plate margin.
folded mountains	Mountains formed mainly by the effects of folding on layers within the upper part of the Earth's crust at a convergent plate boundary.
transform fault	A break occurring at the boundary between two plates of the earth's crust as they are sliding past each other.
stress	The force applied to a rock body.
confining stress	The stress applied to a deeply buried rock by the weight of the rock above it.
compression	Stress applied to a rock as it pushed or squeezed together.
tension	Stress applied to a rock as it stretch or pulled apart.
shear stress	Stress applied to a rock as it is acted upon by two oppositely moving forces.
strain	A physical change in a rock body due to the application of a stress.
deformation	A physical change in a rock body due to the application of a stress.
fracture	A break in a rock body due to stress.
fold	A deformation of rock in which it is bent or curved.
monocline	A simple bend in the rock layers so that they are no longer horizontal.
anticline	A fold that arches upward.

syncline	A fold that bends downward.
fault	A fracture in rock that has moved.
hanging wall	The block of rock above the fault line.
footwall	The block of rock below the fault line.
normal fault	A dip-slip fault in which the hanging wall slides down the footwall.
reverse fault	A dip-slip fault in which the hanging wall is forced up the footwall.
thrust fault	A reverse fault with a nearly horizontal fault line.
strike-slip fault	A fault in which the blocks of rock move side-to-side.
uplift	The process in which continental crust rises because of compressional stress at a continental-continental convergent boundary.
horst	A raised elongated block of the earth's crust lying between two faults that results from a divergent plate boundary.
graben	An elongated block of the earth's crust lying between two faults and displaced downward relative to the blocks on either side, as in a rift valley; results from a divergent plate boundary.