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What are the types of boundary

This image shows the three main types of plate boundaries are the edges where two plates meet. Most geologic activities, including volcanoes, earthquakes, and mountain building, take place at plate boundaries. "Read More about: What is Plate Tectonics? "What are the 4 types of plate boundaries: Divergent boundaries: Divergent boundaries — where new crust is generated as the plates pull away from each other. Convergent boundaries: where crust is destroyed as one plate dives under another. Transform boundaries: where crust is neither produced nor destroyed as the plates slide horizontally past each other. Plate boundaries: where crust is neither produced nor destroyed as one plate dives under another. Plate Boundary Types Occurs when two tectonic plates move away from each other. Along these boundaries, lava spews from long fissures and geysers spurt superheated water. Frequent earthquakes strike along the rift, magma—molten rock—rises from the mantle. Divergent plate boundaries It oozes up into the gap and hardens into solid rock, forming new crust on the torn edges of the plates. Magma from the mantle solidifies into basalt, a dark, dense rock that underlies the ocean floor. Thus at divergent boundaries When two plates come together, The impact of the two colliding plates buckles the edge of one or both plates up into a rugged mountain range, and to the trench. Powerful earthquakes shake a wide area on both sides of the boundary. If one of the colliding plates is topped with oceanic crust, it is forced down into the mantle where it begins to melt. Magma rises into and through the other plate, solidifying into new crust. Magma formed from melting plates solidifies into granite, a light colored, low-density rock that makes up the continents. Thus at convergent boundaries, continental crust, made of granite, is created, and oceanic crust is destroyed. Transform boundaries (Conservative) Transform boundary are pulverized as the plates grind along, creating a linear fault valley or undersea canyon. As the plates alternately jam and jump against each other, earthquakes rattle through a wide boundary zone. In contrast to convergent and divergent boundaries, no magma is formed. Thus, crust is cracked and broken at transform margins, but is not created or destroyed. Plate boundary zones Plate boundary zones occur where the effects of the interactions are unclear, and the boundaries, usually occurring along a broad belt, are not well defined and may show various types of movements in different episodes. Appearance of a convergent plate boundaryImage Credit: MBGDifferent types of plate boundariesImage Credit: MBG Plate boundaries can be categorized in three fundamental types: (a) Divergent boundaries, where plates separate and move in opposite directions, allowing new lithosphere to form from upwelling magma. This either occurs at mid-ocean ridges (the so-called seafloor spreading) or at rifted continental margins; (b) Convergent boundaries, where plates move towards each other. One plate either sinks beneath the other along a subduction zone or plates collide because neither can be subducted; and (c) Transform fault boundaries, where plates move horizontally past each other. Based on the three types of plate boundaries, a global network of approximately twelve major plates of irregular shape and size cover the Earth's crust. Where one type of plate boundaries? Video lecture on divergent, transform, and convergent types of plate boundaries. Recorded during a 2007 teacher workshop on earthquakes and tectonics. Speaker is Dr. Robert Butler, University of Portland Oregon Three main types of plate boundaries: Divergent: extensional; the plates move apart. Spreading ridges, basin-range Convergent: extensional; plates move apart. Spreading ridges, basin-range Convergent ridges, basin-range ridges, basi motion. Keypoints: Discovery Where do the most earthquakes occur worldwide? Where do most volcanoes show a pattern? If so, what tectonic process may be responsible? (compression, extension, shearing) Video Novice Conceptual model of the relative thicknesses of the Lithosphere relative to the diameter of the Earth uses a hard-boiled egg to gain understanding about the scale of the lithospheric plates. Video Novice New oceanic crust is created at this boundary when basalt magma, formed in the mantle, rises into fractures in the crust and solidifies. Spreading ridges are high elevation because the young oceanic plate at the ridge crest is hot and less dense than the older, colder and more dense plate on the flanks of the ridge. Animation Novice The subduction zone iswhere two tectonic (lithospheric) plates come together, one subducting (diving) beneath the other. The plates are locked together and periodically overcome the friction causing the leading edge of the overlying plate to surge back, lifting a wall of water producting a tsunami. Animation Novice A transform fault is a type of strike-slip fault wherein the relative horizontal slip is accommodating the movement between two ocean ridges or other tectonic boundaries. They are connected on both ends to other faults. Animation Novice In a normal fault, the block above the fault moves down relative to the block below the fault. Examples: Sierra Nevada/Owens Valley; Basin & Range faults. Animation Novice In a reverse fault, the block above the fault moves up relative to the block below the fault is called a thrust fault if the dip of the fault plane is small. Other names: thrust fault, reverse-slip fault or compressional fault]. Examples: Rocky Mountains, Himalayas. Animation Novice In a strike-slip fault, the movement of blocks along a fault is horizontal. The fault motion of a strike-slip fault is caused by shearing forces. Other names: transcurrent fault, tear fault or wrench fault. Examples: San Andreas Fault, California; Anatolian Fault, Turkey. Animation Novice The Earth has 3 main layers based on chemical composition: crust, mantle, and core. Other layers are defined by physical characteristics due to pressure and temperature changes. This animation tells how the layers are, and a bit about how the crust differs from the tectonic (lithospheric) plates, a distinction confused by many. Animation Novice Fault types and rock deformation. The faults and folds in rocks provide evidence for they type of stress that formed. Students apply this idea by examining images of faults and folds experimentation with sponge models. Lesson Novice Interactive map of tectonic plates from the US Geological Survey plate tectonic map reveals the plate names when you scroll over the plate. Scrolling over green button shows relative motions. Interactive Novice How are the tectonic plates related to earthquakes and volcanoes? Interactive relief and bathymetric map reveals tectonic plates, as well as world-wide earthquakes and volcanoes. Interactive Novice There are three kinds of plate boundaries: divergent, convergent, and transform plate boundaries divergent, convergent, and transform plate boundaries. courtesy of the U.S. Geological Survey. Download image (jpg, 76 KB). The Earth's lithosphere, which includes the crust and upper mantle, is made up of a series of pieces, or tectonic plates move away from each other. Along these boundaries, earthquakes are common and magma (molten rock) rises from the Earth's mantle to the surface, solidifying to create new oceanic crust. The Mid-Atlantic Ridge is an example of divergent boundaries. When two plates come together, it is known as a convergent boundary. The impact of the colliding plates can cause the edges of one or both plates to buckle up into a mountain ranges or one of the plates may bend down into a deep seafloor trench. A chain of volcanoes often forms parallel to convergent plate boundaries, oceanic crust is often forced down into the mantle where it begins to melt. Magma rises into and through the other plate, solidifying into granite, the rock that makes up the continents. Thus, at convergent boundaries, continental crust is created and oceanic crust is destroyed. Two plates sliding past each other forms a transform plate boundary. One of the most famous transform plate boundaries occurs at the San Andreas fault zone, which extends underwater. Natural or human-made structures that cross a transform boundary are pulverized as the plates grind along, creating a linear fault valley or undersea canyon. Earthquakes are common along these faults. In contrast to convergent and divergent boundaries, crust is cracked and broken at transform margins, but is not created or destroyed.

