

### **Divergent Plate Boundaries (Spreading Centers)** ← →

This is the boundary between two oceanic plates that are moving away from each other. Magma rises between the plates forming new oceanic crust and forcing the plates apart. The youngest rock is found at the ridge and it gets older as get further away from the ridge. The volcanic mountains at the ridge can grow upwards of one mile above the surrounding sea floor. Molten rock flows over the surface and solidifies instantly. Mild earthquakes are common at spreading centers.

### **Divergent Plate Boundaries (Rift Valley)** ← →

This is the boundary between two continental plates that are being torn apart. A crack in the continental crust allows melted rock to escape to the surface, forming new rock and forcing the plates apart. A valley forms between the plates and is eventually filled in with water to create a young sea, similar to the Red sea. Mild earthquakes are common as the land is torn apart.

### **Transform Plate Boundaries (Transverse Faults)** ↑↓

This is a plate boundary in which two plates slide past one another. Friction and pressure are built up as the thick rocky chunks of land are scraped by one another. When this pressure is released, an earthquake occurs. Strong earthquakes are common along transform plate boundaries, though mountains, trenches and volcanoes are rare. A commonly discussed example of a transform plate boundary is the San Andreas Fault in California.

### **Convergent Plate Boundaries (Subduction Zone)** → ←

This is the boundary between a piece of oceanic crust and a piece of continental crust that are colliding into each other. The dense, thin oceanic crust is forced underground, into the asthenosphere as it collides with the continental plate. A trench is formed where the plates first meet and strong earthquakes are common. On the continental side of the boundary, volcanic mountains are common as the subducting plate melts in the asthenosphere and the melting rock rises and breaks through the surface. A commonly discussed example of a subduction zone is the Peru-Chile trench, on the West coast of South America.

### **Convergent Plate Boundaries (Island Arc)** → ←

This is the boundary between two oceanic plates that are colliding. Both dense, thin plates crash into each other and battle to see which one will be forced to subduct. Eventually, one plate will win, forcing the other plate into the hot mantle below. A trench will form at the point where the two plates meet which is also the site of intense earthquakes. Volcanic islands will rise from the sea-floor above the plate that was not subducted. These volcanoes are fed by the melting remnants of the subducting plate. A commonly discussed example is the Aleutian Island chain in the northern Pacific Ocean.

### **Convergent Plate Boundaries (Collision Zone)** → ←

This is the boundary between two continental plates that are colliding. The thick, continental crusts crash into each other forcing the land to rise, forming giant, rugged mountains. It is similar to a head-on collision between two cars. As they collide, the cars crumple up. Earthquakes are common in the active plate boundary. Volcanoes are rare as no crust is being forced into the mantle. A commonly discussed example is the Himalaya Mountain chain in Northern India.