Plate Tectonics | Sample answer

Plate Boundaries are zones where crust is both created and destroyed, examine the above statement with reference to examples you have studied (2007)

There are three different types of plate boundaries. Divergent, Convergent and Transform Boundaries.

Divergent boundaries occur when two plates are separating. Magma rises, then cools and solidifies when it reaches the ocean floor to form solid rock. It is a constructive boundary as new rock is created. The new crust builds up as this process is repeated to form an underwater mountain range such as the Mid-Atlantic ridge.

Convergent Boundaries are when two plates come together. The older heavier plate will slip under the younger lighter plate. This is called subduction. Convergent plates are destructive boundaries as the rock is destroyed as it comes into contact with the magma.

When two oceanic plates collide the older plate subducts and forms an ocean trench. The plate continues to subduct until it melts forming new magma which comes to the surface. Lava cools and solidifies on the ocean floor to build up to form island volcanoes. These are usually in chains called island arcs e.g. Japan.

When an oceanic and continental plate collide, the heavier oceanic plate subducts forming an ocean trench. The continental plate buckles and folds under the pressure to form Fold Mountains such as the Rockies and the Andes. The oceanic plate continues to subduct until it melts into new magma which rises to the top forming volcanoes.

When two continental plates collide, no plates subducts as they are both very thick. The plates buckle and fold under the pressure forming Fold Mountains. This occurred when the Indian plate collided with the Eurasian plate pushing the Himalayas and the Tibetan Plateau to their present heights.

Transform boundaries are when two plates push past each other. They may push each other in different directions or the same direction at different speeds. The line that marks where they push past each other is called the fault line. An example of a fault line is the San Andreas Fault where the pacific and the Americas plate push past each other. Transform boundaries are conservative boundaries as rock is neither created nor

destroyed. Earthquakes occur when one of the plates jams causing a huge build-up of pressure. When the plate slips the energy is released causing an earthquake.