

Plate Tectonics | A1 Sample answer

The Antrim Derry Plateau

The Antrim Derry Plateau is an extrusive volcanic feature formed during a fissure eruption. A fissure eruption occurs when plates are weakened because of the movements caused by convection currents. The crust is cracked and weakened as the plates move. Basic lava seeps through these cracks. Basic Lava is thin and can run for 50 kilometres. The Antrim Derry plateau is a basalt plateau and is 4000 km² and 350 metres in height. It was formed 65 million years ago from volcanic activity which lasted for 15 million years when the Eurasian and American plates separated. Lava erupted onto the surface and cooled and solidified to form a flat featureless landscape. The eruption was not Violent as gas and ash were absent. Lava which was 5 to 4 metres thick covered the landscape.

The Atlantic Ocean began to open up as the plates drifted and new continental crust was formed. The volcanic activity then ceased. The Giant's Causeway was formed as a result of this volcanic activity. It has 60000 basalt columns which were formed when lava cooled in a river valley. As it cooled slowly large crystals formed. The lava cooled and contracted and broke into hexagonal columns. Deeper columns cooled more slowly and formed a more uniform pattern. These columns are now exposed due to coastal erosion. The Giant's Causeway is now a tourist attraction.