

Formation of Beaches | Sample answer

Examine the impact of the processes of deposition on the formation of any one landform that you have studied.

A landform of deposition is a beach. A beach is defined as all the material that is found between the areas of low tide and high tide. The material is an accumulation of sand and shingle that has been eroded elsewhere, transported by longshore drift and deposited by constructive waves. A perfect beach would be concave in profile. The foreshore would be flatter than its slightly steeper backshore. Constructive waves are waves that break at a rate of less than 8 per minutes, they form most straight beaches on gently sloping shores. The swash is very powerful and carries materials up the shore while water soaks into the sand or pebbles. The backwash is weaker and smaller, causing materials to be deposited on the shore rather than returned to the sea. Beach material becomes stratified as a result, as the strong swash carries heavy materials such a large rocks to the backshore, while only light sand particles can be carried towards the foreshore by the weaker backwash.

The process of longshore drift is where beach material moves along the shore in a zigzag movement due to the waves breaking at right angles to the shore. The waves then deposit materials on sheltered parts of the shore where the waves break and lose their energy. Gyrones are sometimes built to stop the movement of longshore drift. They are low walls of cement or wood that are built at right angles to the beach.

Wave refraction forms many beaches in the West of Ireland such as Lahinch, County Clare. As waves bend around headlands, they lose their energy and this causes the waves to deposit materials in bays around the headland. Wave action and local currents shape beach material into cusps, berms, ridges and runnels. Cusps are crescent shaped hollows formed on shingle beaches. Berms are ridges or steps of gravel found on the backshore of storm beaches. They mark the highest point reached by the swash at high tide. Ridges are long, mounds of sand that lie parallel to the shore on some sandy beaches. The sloping depression that separate Ridges are called Runnels. Sand dunes are hills of sand that develop behind sandy beaches. As wind blows

in from the sea, it picks up sand particles from the beach to carrying them inland until it builds up into mounds. Sand dunes can be seen at Tramore beach Co. Waterford.