Year 8 Coasts

Term	Definition
Coast	Where the land meets the sea
Island	A piece of land completely surrounded by sea
Ocean	A very large body of water, there are 5.
Erosion	When the sea wears away the land
Weathering	When the weather or plants cause rock to breakdown
Transport	How the sea transports material
Deposition	When the sea drops material due to a lack of energy
Landform	A natural feature of the earth e.g. beach
Wave	A disturbance on the surface of the water usually by the wind. They look like ridges.
Swash	When a wave moves up the beach
Backwash	When a wave goes back down the beach



Great Britain is an island surrounded by sea. Therefore you are never far from the coast. The landforms on our coast have all been created by the sea through the processes of erosion, transport and deposition.

Types of wave

There are two different types of wave. Constructive waves which are low energy and deposit material on the shore. These build beaches.

Destructive waves are high energy and usually occur during storms when there is lots of wind. Over time they destroy beaches and cliffs.

CONSTRUCTIVE WAVES HAVE A LOWER WAVE HEIGHT

BUILD UP (CONSTRUCT) THE BEACH WITH DEPOSITION FROM THE STRONG SWASH DESTRUCTIVE WAVES HAVE A HIGHER WAVE HEIGHT DESTRUCTIVE WAVES HAVE A HIGHER WAVE HEIGHT BREAK DOWN (DESTROY) THE BEACH WITH EROSION FROM THE STRONG BACKWASH WEAK SWASH A STRONG BACKWASH

<u>Erosion</u>: When the sea wears away the land. There are four different processes of erosion.

Hydraulic Action: Is the force of the waves hitting The cliffs. Air bubbles are forced into cracks Weakening the rock until it breaks off.

Abrasion: small rocks and pebbles hitting the cliff repeatedly wears the cliff away.

Attrition: rocks bashing into each other and becoming smaller and smoother.

Solution: Chemicals in the water can slowly dissolve Certain types of rock.



Types of Weathering:

- 1. Biological: plant roots can weaken or break rock apart
- 2. Chemical: chemicals in the rain can slowly dissolve certain types of rock
- 3. Mechanical (free-thaw) water that gets into cracks in rocks will expand as it freezes and compress as it melts. Over time this can cause rocks to break apart.

A coastal landform created by erosion: HEADLANDS AND BAYS

- 1. Headlands and bays form where there are alternating bands of hard and soft rock perpendicular to the oncoming waves (see the labels on the first diagram)
- 2. At first, the softer rock (e.g. clay) is eroded backward by differential erosion (hydraulic action and abrasion), forming an inlet
- 3. As the inlet continues to erode it curves inwards, and a bay is formed, usually with a beach.
- 4. The harder rock (e.g. limestone) is left sticking out to sea as a headland



Coastal Transportation and Deposition can form: A COASTAL SPIT



The prevailing (most common) wind direction can create waves that hit a beach at an angle. This has the potential for material to be transported down the coast (see picture labelled longshore drift)

At times the wind can change direction which makes the material get deposited and form a hook. See land in front of salt marsh. Eventually enough sand builds up, sand dunes form and the sea behind the spit will start to dry out creating a salty marsh.

Deposition and change in wind direction over many years can create coastal spits (this is new land being created by moving material along the coast).