

Year 4: What happens when the land meets the sea?

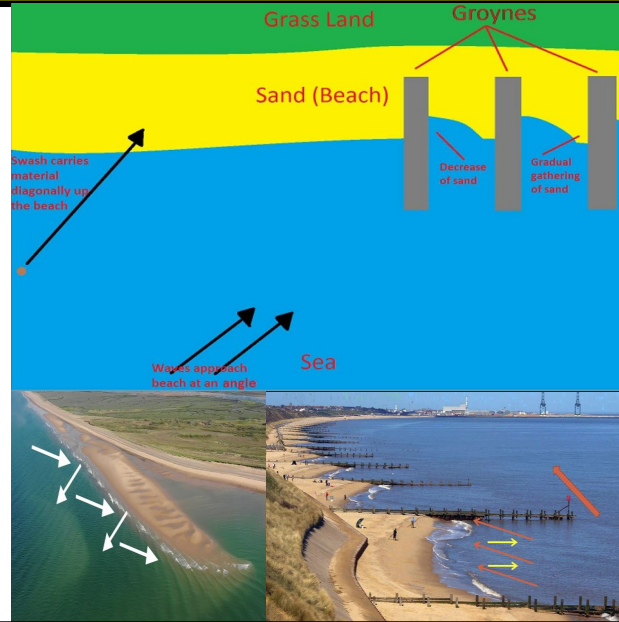
Coastal Erosion and Change

The force of the sea changes the coastal landscape. **Waves** get their energy from the wind. The stronger the wave, the more erosion it will cause.

There are four main types of erosion:

- the force of the waves removing rock (**hydraulic action**);
- rocks getting worn and becoming smaller and rounder (**attrition**);
- rocks in the waves eroding the cliffs (**abrasion**);
- acids and salts in the sea dissolving minerals in the rocks (**solution**).

As well as the wind and the waves eroding and wearing away cliffs, rocks and sand, or changing the shape of them, the waves also move rocks and sand to different places making new features like sandbars and spits. This is called **deposition** and **longshore drift**. Coastlines are always changing and often man tries to stop this. They build **sea walls**, **groynes** and **gabions** to stop the waves wearing away cliffs and carrying rocks and sand along the beach.

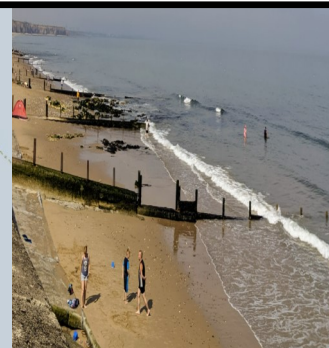


Vocabulary

Human Geography: man made (shops, buildings, bridges, schools)
Physical Geography: made by earth (rivers, seas, beaches, hills)

backwash	The movement of seawater back down the beach.
beach nourishment	Adding sand to the beach to increase the beach width and help slow erosion.
beach reshaping	Changing the shape of the beach by moving material from the lower beach to the upper beach.
coast	Where the land meets the sea.
deposition	The laying down of sediment carried by wind or water.
erosion	The process by which earth materials are worn away by wind or water.
estuary	Where a river meets the sea and tidal (sea) and fresh (river) water mix.
gabions	A basket or container filled with stones.
groynes	A structure built on the beach out into the sea to stop sand moving along beach.
longshore drift	The process of transporting eroded material along a beach.
managed retreat	The controlled flooding of a low lying coastal area to create a wetland area.
protect	To keep safe from harm.
revetments	Slabs of stone or concrete built to protect the bottom of cliffs from erosion.
rock armour	Large boulders in front of a cliff or sea wall.
sea walls	Concrete, steel or stone walls built to protect areas from erosion.
sediment	Solid material moved that settles in a new location (rocks, pebbles, etc.).
swash	The rush of seawater up a beach after a wave breaks.
transport	To carry from one place to another.

Seaham is a coastal town in North East England. It has fine beaches and transport links to the eastern coast. From 2001 most of the Durham coastline was designated as a "heritage coast" and Seaham beach was entirely restored and protected. In 2002 the Turning the Tide project won, jointly with the Eden Project the prize for **Outstanding Achievement in Regeneration**.



CRC Article 17: All children have the right to information.



Match them up

- Sea Walls
- Groynes
- Rock armour
- Revetments
- Gabions
- Beach nourishment
- Beach reshaping/stabilisation
- Managed retreat



Look at the **coastal defences** above. They are all ways to protect the coastline and beaches. Read the vocabulary definitions and see if you can match the description to the picture.

Arch

Stack and Stump

Spit

