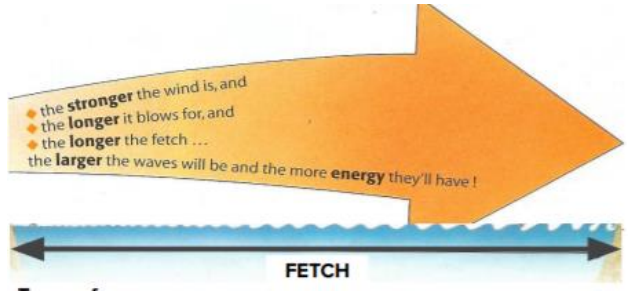
8.2 Year 8 Module 2

Water at the coast

Geography Knowledge Organiser

8.2.1 – Wave action



Types of waves

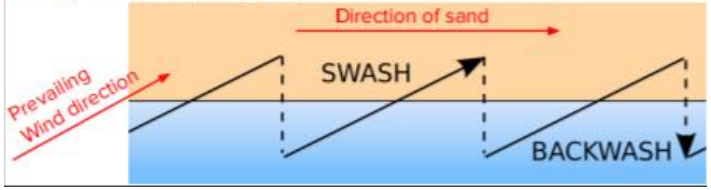
Destructive wave	Constructive wave
High energy	Low energy
Strong backwash	Strong swash
High waves	Low waves
Lots of waves	Few waves
Erodes the beach	Deposits on beach

8.2.2 –Coastal Processes

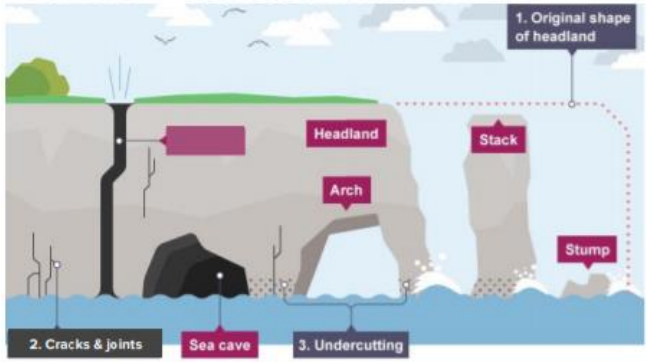
Erosion processes

Hydraulic action	The sheer force of the water hitting the banks (sides) of the cliff
Abrasion	The stones and pebbles (load) carried by the sea hits and scrapes the cliff
Solution	Slightly acidic river water dissolves some rocks
Attrition	Stones and boulders hit each other in the river and break up becoming smaller and smoother
Freeze thaw	Water continually seeps into cracks, freezes and expands, eventually breaking the rock apart.
Salt crystallization	Water in cracks evaporates, leaving salt crystals behind which expand as they heated up.

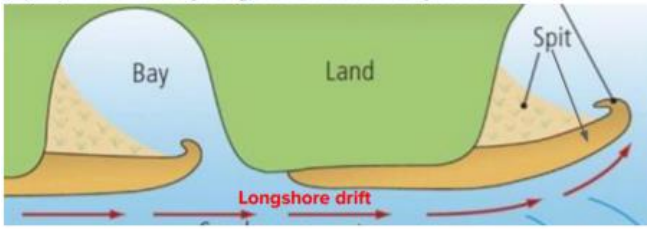
Longshore drift (transport)



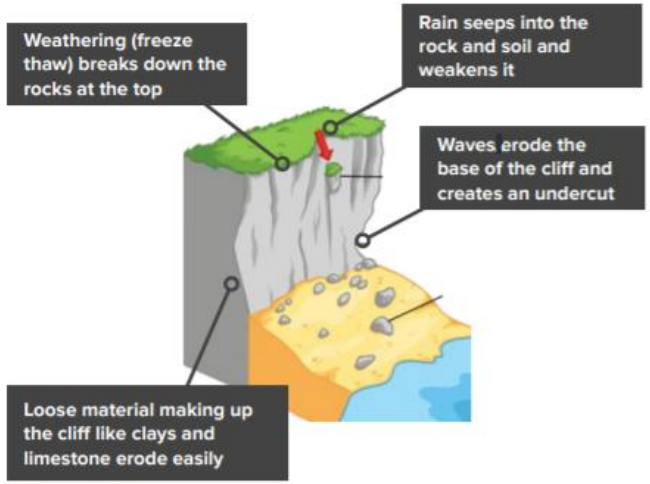
8.2.3 – Coastal Landforms



Spits are formed by longshore drift and deposition:



8.2.4 – Cliff collapse



Impacts of cliff collapse

[Social] House collapse; loss in house value; hard to sell houses.
[Economic] Loss in tourism; closure of caravan parks.
[Environment] Increased landslides and rock falls.

8.2.5 – Coastal Management

Hard engineering: - aims to slow down or prevent natural processes such as erosion

Sea walls Works: A+ Cost: £££££	Concrete barrier built at the foot of cliffs or at the top of a beach. Curved face to reflect the waves.
Groynes Works: B Cost: £££	Timber fences built out to sea, trapping the sand moved by longshore drift and building the beach
Rock armour Works: C Cost: £££	Piles of large boulders dumped at the foot of a cliff. The rock absorb the waves energy
Gabions Works: C Cost: £££	Cages of boulders built into the cliff face consisting of smaller rocks

Soft engineering: aims to work with natural processes to reduce the amount of erosion

Beach nourishment Works: C Cost: £££	Sand is pumped onto an existing beach to build it up. Beach are a defence against incoming waves
Reprofiling Works: C Cost: ££	Sand & stones are moved from the lower part of the beach to the upper part of the beach
Dune nourishment Works: B Cost: ££	Grass is planted on sand dunes to stabilise them. The grass helps to trap sand to build the dunes up