The Sea Revision Notes
(If you study this section you do not have to study <u>Glaciation</u>)

<u>Waves</u>

- Waves are created from friction between the wind and the sea.
- The larger the sea (fetch) and the stronger the wind the bigger the wave is.
- The wave that comes up the shore is called the swash.
- The wave that comes back down the beach is called the backwash.
- A constructive wave builds up the beach, as the swash is stronger.
- A destructive wave erodes the beach, as the backwash is stronger.

<u>Processes of sea erosion</u>
(Marking Scheme: 2 processes @ 3 marks each, 1 mark name it, 1 statement and 1 explain)
Hydraulic Action: The force of the waves hitting against the coast.
Abrasion: The seas load is hurled against the coast by the waves.
Attrition: The rocks carried by the sea become rounded as they knock off each other.
Compression: Air is trapped in the cracks in the rock by incoming waves. When the wave retreats the air expands causing a small explosion that shatters the rock.

<u>Features of sea erosion</u>
(Marking scheme: 10 marks, 1 mark name feature, 3 marks for labelled diagram and 6 marks for two formations @ 3 marks each, {1 mark statement and 2 marks development})

Landform/Feature: **Sea cave, arch and stack**
Example: Hook Head, Co. Wexford.
Processes: Hydraulic Action, Abrasion, Attrition, Compression
Formation: 1. The sea enlarges a crack in a cliff overtime this becomes a cave.
2. The sea erodes further into the cave until it cuts through the headland forming a sea arch. If two caves cut back to back this can also happen.
3. The waves attack the sea arch until finally the roof collapses and a pillar of land is left isolated called a sea stack.
4. The stack continues to erode. Overtime, it is worn down further to become a sea stump.
(Hint: Remember FEED: Feature, Example, Explain and Diagram)

Cliffs

- A vertical slope on the coast.
- The waves cut a notch in the base of the cliff, the undercutting continues until eventually the overhang collapses.
- This then forms a wave – cut platform at the base of the cliff e.g. Cliffs of Moher, Co. Clare.

Bays and Headlands

- They form in areas of hard and soft rock.

- The soft rock is eroded quicker forming the bay, which is a wide, curved opening.
- The headland is the area of hard rock left jutting out into the sea e.g. Dublin Bay and Howth Head.

Blowhole
- It forms when compression is active at the back of a cave.
- Eventually a hole in the roof forms and during stormy weather sea spray shoots up through it e.g. McSweeney's gun, Co. Donegal.

Process of sea deposition
Longshore drift: This is the zig-zag movement of material along the shore. The swash reaches the shore at an oblique angle, it brings material up and along the shore. The backwash leaves the beach with material at a right angle.

Features of sea deposition
(Marking scheme: 10 marks, 1 mark name feature, 3 marks for labelled diagram and 6 marks for two formations @ 3 marks each, {1 mark statement and 2 marks development})

Landform/Feature: **Sand Spit, Tombolo and Lagoon**
Example: Tramore, Co. Waterford (Spit), Howth, Co. Dublin (Tombolo), Our Lady's Island, Co. Wexford (Lagoon).
Processes: Deposition and Longshore drift.
Formation: 1. A ridge of sand that is connected to the mainland at one end and extends into a bay at the other.
2. A beach becomes elongated by the processes of longshore drift into the mouth of a bay. Deposition continues until the ridge of sand is above sea level. This is now called a sand spit.
3. If the spit continues and reaches the other side of the bay it is called a sandbar.
4. The old bay is now cut off by the sandbar. The sealed off bay is now called a lagoon.
5.The lagoon will eventually dry up and plants will colonise it to form a salt marsh.
6. A tombolo is an island connected to the mainland by a sandbar or a sand spit.
(Hint: Remember FEED: Feature, Example, Explain and Diagram)

Sand Dunes
- Hills of sand at the back of a beach.
- Onshore winds dry the sand and blow it inland, it gets trapped by a wall or vegetation.
- Over time it builds up to form a sand dune. It is anchored by salt resistant marram grass e.g. Tramore, Co. Waterford.

Beach
- A beach is material dropped of a gently sloping coast.

- Constructive waves deposit sand and shingle between high and low tide.
- Finer materials are found on the foreshore and larger material on the backshore e.g. Tramore, Co. Waterford.
- Storm beaches consist of stones and rocks hurled there during stormy weather e.g. Greystones, Co. Wicklow

Coastal Protection

Humans can put in place the following to protect coastlines:
Groynes: Low walls or fences that stretch out into the sea at right angles to stop sand moving by longshore drift e.g. Rosslare, Co. Wexford.
Gabions: Wire cages filled with stones that are placed at the back of the beach to prevent erosion of sand dunes e.g. Rosslare, Co. Wexford.
Boulders/Rock Armour: They are large rocks and have the same job as gabions e.g. Tramore, Co. Waterford.
Sea Walls: Curved walls built at the back of beaches to deflect the erosive power of the waves e.g. Tramore, Co. Waterford.

Human Activity and the sea

Advantages	Disadvantages
Recreational area for tourists they use it for swimming, fishing and sailing	People can pollute the area with sewage, oil spillages and other untreated waste
It brings in money to the local community e.g. tourists buy in local shops and stay in holiday homes nearby	Coastal areas can be prone to erosion, removing a livelihood for local traders and destroying homes near the shore