

Week 1: Key Terms

- Sediment– small pieces of eroded rock, often taking the form of sand.
- Erosion– the breakdown of rock over time into smaller pieces of rock.
- Transportation– the movement of sediment from one place to another over time. At coasts this is often done through longshore drift
- Longshore drift – Is a form of transportation as it moves sediment in a certain direction down the beach.
- Deposition– laying down of sediment to form new land.
- Coastal management– humans attempts to limit erosion and so keep the coastline in the same place.
- A concordant coastline - has the same type of rock along its length.

Week 2: Geology

- Coast – an area of land that meets the sea.
- Coasts have physical features such as cliffs and beaches.
- Headlands are formed when the sea attacks a section of coast with bands of hard and soft rock.
- The bands of soft rock, such as sand and clay, erode more quickly than those of more resistant rock, such as chalk.
- This leaves a section of land jutting out into the sea called a headland.
- The areas where the soft rock has eroded away, next to the headland, are called bays.
- Geology is the study of the types of rocks that make up the Earth's crust.
- Coastlines where the geology is a mixture of hard rock and soft rock are called discordant coastlines.
- A concordant coastline has the same type of rock along its length.

Week 3: Waves

- There are two types of wave -constructive and destructive.
- They can affect the coastline in different ways.
- When a wave reaches the shore, the water that rushes up the beach is known as the swash.
- The water that flows back towards the sea is known as the backwash.
- The energy of the swash and backwash determine the type of wave.
- The characteristics of a destructive wave are:
 - weak swash and strong backwash
 - the strong backwash removes sediment from the beach
 - the waves are steep and close together
- The characteristics of a constructive wave are:
 - strong swash and weak backwash
 - the strong swash brings sediments to build up the beach
 - the backwash is not strong enough to remove the sediment
 - the waves are low and further apart

Week 4: Coastal Process One

- Exposed rocks along the coastline can be broken down by the processes of weathering.
- Freeze-thaw weathering occurs when rocks are porous (contain holes) or permeable (allow water to pass through).
- Freeze-thaw weathering takes place when water enters cracks in the rock. When temperatures drop, the water freezes and expands causing the crack to widen. The ice melts and water makes its way deeper into the cracks. The process repeats itself until the rock splits entirely.
- Plants cause biological weathering.
- Roots burrow down, weakening the structure of the rock until it breaks away.

Week 5: Coastal Processes Two

- Erosion is the wearing away of rock along the coastline.
- Destructive waves are responsible for erosion on the coastline.
- There are four types of erosion.
 - Hydraulic action - this is the sheer power of the waves as they smash against the cliff. Air becomes trapped in the cracks in the rock and causes the rock to break apart.
 - Abrasion - this is when pebbles grind along a rock platform, much like sandpaper. Over time the rock becomes smooth.
 - Attrition - this is when rocks that the sea is carrying knock against each other. They break apart to become smaller and more rounded.
 - Solution - this is when sea water dissolves certain types of rocks. In the UK, chalk and limestone cliffs are prone to this type of erosion.

Week 6: Coastal Processes Three

- When beach material is moved we call it transportation.
- There are four types of transportation.
 - Solution - when minerals in rocks like chalk and limestone are dissolved in sea water and then carried in solution. The load is not visible.
 - Suspension - small particles such as silts and clays are suspended in the flow of the water.
 - Saltation – where small pieces of shingle or large sand grains are bounced along the seabed.
 - Traction – where pebbles and larger material are rolled along the seabed.
- When the sea loses energy, it drops the material it has been carrying. This is known as deposition.
- Deposition can occur on coastlines that have constructive waves.