

Year 12 Annotated Work

Each unit of the AS-Level will have a key terminology sheet that students are required to fill out throughout the topic to ensure that students have a clear understanding of geographical terminology.

Coastal Landscapes and Change

AO1: Precision in the use of terminology.

Enquiry question 1: Why are coastal landscapes different and what processes cause these differences?

Term	Definition
The Coastal System	Coastal landscape systems <u>store</u> and <u>transfer</u> energy and material on timescales that can vary from a few days to millennia.
Sandy Coastlines	Formed on <u>low energy coastlines</u> where constructive waves <u>deposit</u> material due to strong swash
Rocky Coastlines	where <u>high energy waves</u> prevent the build up of material. <u>Weak</u> geology is removed leaving resistant geology to form cliffs
Estuarine Coastlines	Formed by rivers meeting the coast. <u>Carried sediment</u> is deposited <u>forming deltas</u> . <u>Flocculation</u> of silt and clay creating <u>mud flats</u> in sheltered areas
Flocculation	when salt water mixes with freshwater the charge of the particle changes. This results in <u>clumping</u> together of sediment or mud into <u>flocs</u> . These flocs are <u>heavy</u> and are deposited on the river bed
The Littoral Zone	The coastal area between the highest and lowest tide levels, the wider <u>coastal zone</u> including coastal lagoons and shallow parts of the sea offshore
Backshore	lying between foreshore and the coastline. Dry under normal conditions, often characterised by <u>berms</u> and is without vegetation
Foreshore	between high and lower water marks where most tidal action occurs
Lithology	The <u>physical and chemical characteristics</u> of a rock in a particular area such as <u>jointing</u> , <u>bedding</u> , <u>faulting</u> and <u>permeability</u>
Strata	a single bed of rock (often sedimentary) generally with the same kind of matter representing <u>continuous deposition</u> . In simple terms, a layer of rock
Geology	describes the occurrence and changing of rock on Earth's crust over a long time period
<u>Eustatic Sea Level Rise</u>	- global sea level rise in relation to land. This was a result of <u>melting of glaciers</u> at the end of an Ice Age. - last one was 12,000 years ago
<u>Percolation</u>	the movement of water through gaps in particles
<u>Halophytes</u>	pioneer plants that can tolerate salty conditions which are submerged at high tide - e.g. glasswort

Coastal Landscapes and Change

AO1: Precision in the use of specific case study detail

Enquiry question 1: Why are coastal landscapes different and what processes cause these differences?

Case Study	Specification Point	Case Study Detail	Synoptic Link
Dorset Coastline	2B.2a Geological structure is responsible for the formation of concordant and discordant coasts.	Concordant Coastline from Durlston Head to Durdle Door with rock layers (chalk, greensand and limestone) running parallel to the shore. Discordant Coastline from Sandbanks to Durlston Head with rock layers (chalk, clay and limestone) running perpendicular to the shore.	<u>Futures and Uncertainties</u> How will this coastline cope with rising sea levels.
<u>Barton-on-Sea</u> Coastal management strategy ← 2B.1f	2B.3a - bedrock lithology and rate of erosion 2B.2 - geological structure and development of coastal landscapes ← 2B.1f	Concordant Barton Sands Barton clay head deposits Smoothing soft rock ↑ erosion	Coastal management Strategy Suitability

Each unit of the AS-Level will have a key case study sheet that students are required to fill out throughout the topic to ensure that students have a clear understanding of the range of case studies and illustrative examples that they can use in their 12 mark questions.

As 12 mark questions are a new type of question for AS-Level a clear structure is provided to students as to how they should approach the question.

12 Mark Questions

(12 - 3 for AO1 - Knowledge & understanding)
- 9 for AO2 - Analysis & Evaluation)

→ Command word is always 'assess'

→ Paragraphs must go in order of importance

P1 - most
P2 - second most
P3 - least.

Introduction: → Definition of any key terms (3 to 4 sentences)
→ Line of Argument
→ Brief explanation as to why (must include a golden judgement)

Main Body: → 3x PEEL paragraphs
↳ Point = One reason is ..., because ...
↳ Evidence = (and) facts for this question
↳ Explain
↳ Link back to question linking to golden judgement.

Conclusion: → Summary of your line of argument.
→ Why least important point is flawed (weak).

See Success Criteria sheet from 15.11.24

Formula for any case study → processes

How do we qualify effectiveness

11.12.24

Effectiveness:

- same job but same quality quicker or cheaper or better quality
- Striking a good balance between what stakeholders want and what the plan requires/does
- "Golden Judgements"

Knock-on effects:

- Positive or Negative
- Social, Environmental, Economic or Political
- Temporary or Permanent

Time:

- time taken to implement
- time scale of focus / how long benefits last

Cost:

- Cost-Benefit Analysis
 - ↳ is it cost effective?
 - ↳ the money saved should be larger than the money spent on the plan (long term savings vs one time payment)
 - ↳ also recognising the value of the land
- must reduce long term expenditure on coastal flooding or erosion

Scale:

- national, regional, local, global
 - ↳ based on the situation we want things to have different effects and effectiveness
 - ↳ based on the other Knock-On effects

As 12 mark questions are a new type of question for AS-Level a language framework for supporting students' analysis.

12 mark questions are a new type of question for AS-Level. Therefore, supported planning sheets are provided to the students to help with them summarising their ideas and deciding on their line of argument.

Golden Judgements	Erosional Processes	Transportation and Depositional Processes
Example Landforms	→ Headland & Bays → Wave Cut Platforms → C.A.B.S	→ Spits, Bars, Tombolos → Salt Marshes → Cuspate Forelands → Beaches → Lagoons
Time (Short Term/Long Term)	HB → Long term - As long as there is dominant coastline. WCP → Shorter term, will just be eroded. CAS → Shorter term, will eventually be eroded	SBT → Long term - some over years so it's hot to form, but can be destroyed in a short time. CF → Long term's rock conditions such as resistance probably with S.B.S.D which is slow. Lagoon → Shorter term, formed by bars, but erosion can easily disrupt them.
Scale (Local, Regional and National)	HB → Very large (10km in Bournemouth) WCP → Local as it's only really seen in the local area CAS → Local, common on cliffs, which is pretty small.	SBT → Local to regional - some are small, but some are very long CF → Mainly small to be local, really long enough for regional. Lagoon → Local → Meddles - Bournemouth a spit.
Knock on Effects (Resulting Landforms)	HB → Beaches & cliffs → significant for houses → More difficult & difficult to access WCP → The Palses / Seas formed & cliffs. CAS → Erodes further down the cliff (makes out section)	SBT → Salt marshes → Lagoons → Barrier Beaches. CF → More beaches due to strength of L.M. → Then cause the beach to run out of beach. Lagoon → Salt marsh → Underlines from examples
Rate of Change (Daily/Seasonally-Link to Positive or Negative Feedback)	HB → Steady movement → Winter sea erosion, summer waves → Negative feedback. WCP → Seasonal for storms & winter for change to cause major movement. CAS → More gradual. At least can appear in a few days	SBT → Take time for gradual change → Some driven into beach in CF → Again L.S.D takes a lot of time, so not needed to be made. Lagoon → Seasonal due to rock of a bar to form, but also can be broad quickly

Coastal Landscapes and Change Assessment 4

Please answer the 1-4 mark questions and the following 12 mark question.

You shall have 26 minutes to complete the assessment.

Assess the importance of subaerial processes in contributing to the rate of coastal recession (12 marks). → Subaerial is not the most important. To define: → Coastal Recession → erosion → beaching → beaching + cliffing

Plan for the 12 Mark Question

Most important = Role of geology
→ It is linked to coastal change
→ It is the reason why major coastal landforms occur.
→ It causes both coastal problems for humans
→ Subaerial side.

② → more energy
→ more for coastal side
→ linked to other coastal features can cause gradual + sudden change

③ other view
→ subaerial processes
→ working of geology to form other landforms.
→ scale is more local
→ working of processes for coastal erosion.

Mark: 17/22

Feedback:

Ensure focus of the question is recession and not landforms and development of explanation throughout.

Level on 12 Mark Question:

L1 (1-4 marks)

L2 (5-8 marks)

L3 (9-12 marks)

Mark for AO1 (Knowledge and Understanding)

2/3

To improve in AO1:

→ coastal recession - not just landforms. Also question is a broader issue.

Mark for AO2 (Application and Evaluation)

5/9

To improve in AO2:

→ Don't just use 'large'
→ Relate each point to other coastal subjects
→ Clear up paragraphs.

Student Reflection on work:

A bit 12 marks. I think I had the wrong focus of the question which led to incorrect subjects to be used and the low AO2.

Students are given planning time for the 12 mark questions to support them in thinking through the structure and points they wish to use in their answer.

Students are provided with a key clear overall feedback target based off their answers in the assessment.

Students as part of their green pen assessment feedback have to reflect on how they have to improve their AO1 and AO2 in their 12 mark question answer and reflect on strategies to move forward based on the feedback given.

Students are introduced to the AS-Level mark schemes- the indicative content that is needed in answer as well as the level descriptors and what is required to reach a Grade A in the AS exam.

6 mark Sediment Cell Question
Question 5d: Using a named example, explain the sediment cell concept (6 marks)
Mark Scheme

Question number	Answer	AO1 (6 marks)
5(d)	Marking Instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the level-based mark scheme below. Indicative content guidance The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Irrelevant points may include: • Sediment cells are stretches of coastline where the movement of material is mainly self-contained. • Material becomes part of a sediment cell through coastal erosion processes, e.g. abrasion, hydraulic action, abrasion and corrosion. • Coastal transport processes transport material along the coastline either because of littoral drift, or currents, or the wind (sediment). • Large natural barriers might prevent the transfer of sediment - e.g. the Thames Estuary, or Lyn Peninsula in Wales - with sediment deposited on land in the form of beaches, or offshore stored and submarine canyons. • The combination of processes and other factors will result in the named example either having a closed or open sediment cell system. • Sediment cells are often closed systems - In the named example, sediment might not be transported from one cell to another. Although tidal currents might cause material to be lost (an open system). • Coastal erosion, e.g. of named cliff faces / headlands, produces sediment, and other sediment enters the cell from rivers, lagoons or offshore transport from other sediment cells. • If no example named, the answer is unlikely to go out of level 2. Accept any other reasonable response. Likely examples might include along the Ramsgate Head coastline, or within Start Bay, or Christchurch Bay (leading to Hurst Spit).	

Level	Mark	Descriptor
0		No relevant material.
Level 1	1-2	• Demonstrates isolated or generic elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding to geographical information inconsistently. Connections/relationships between stimulus material and the question may be irrelevant. (AO2)
Level 2	3-4	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information to find some relevant connections/relationships between stimulus material and the question. (AO2)
Level 3	5-6	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding to geographical information logically to find fully relevant connections/relationships between stimulus material and the question. (AO2)

have to consistently get in Level 3 to get an A

got 5/6
needs more detail
more processes
and explanation
more specific

reasonable response

got 2/6
Capot in level
1 if not
specific
case study

Student Answer A

The sediment cell concept is the idea that sediment largely remains within a certain area of the coast and rarely crosses the boundary between cells, which may be something like a prominent headland. The idea is that any eroded material remains within the cell and is just deposited elsewhere. For example, in sediment cell 3, erosion is focused on the soft rock area of Happisburgh, releasing lots of sediment into the coastal system. This area has rock with very weak lithology and weak bonds between particles as it is mostly sand. It also experienced the energy of two prevailing winds, 1 with a 2000km fetch and one with a 600km fetch. Some of that sediment is transported westwards by longshore drift.

However, the majority is transported southwards along the coastline by longshore drift in the direction of the prevailing wind. As sediment moves along the coastline, it is constantly deposited, resulting in the amount of sediment carried by the waves continually decreasing as moves through the 3c and 3d sub-cells. The sediment is held in the cell by a bay and headlands to the south in the 3e sub-cell, showing how the sediment largely remains and is transported solely in the cell and does not cross into other cells.

Mark 6/6

WWW: Lots of case study + understanding
EBI: Could have even more case study facts (e.g. in para 2)

Student Answer B

Sediment cells are regions, often bound by headlands where a transfer of sediment occurs due to many erosional, transportation and depositional processes.

Sediment cells have budgets and when this budget is balanced (0), the coast will remain the same. But if sediment coming in exceeds sediment coming out, the coast expands. And if sediment going out exceeds sediment coming in, the coast will recede. Often, if there is a large increase or decrease in the sediment cell budget, it is due to weather events, such as storms. However, sediment cells are seen as closed systems.

In a sediment cell, there are areas of erosion, as the waves there may be destructive and areas of deposition such as beaches and so sediment gets transferred from one place to another.

Level 2

Mark 3/6

WWW: closed system
EBI: Limited understanding of where sediment "coming in" and "coming out" comes from and goes from
CASE STUDY

can't get out of level 2

Students are provided with model answers from students to assess how the mark scheme is applied to an answer and therefore what needs to be down to improve the answers provided and apply this understanding to their own answer.