3.8 Coastal Transportation, Deposition and Landforms: 10-minute Pack

AQA 8035 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Resource C is a fictional coast running west to east, with land to the north and sea to the south. Waves arrive FROM the south-west, moving north-east, and loose sand and shingle are supplied continuously from the west. At its eastern end the coast turns sharply north beside an inlet. Wave energy falls in the sheltered water beyond the bend. Explain how a spit could start to grow at this bend, including its initial direction of growth.

(Total for Question 1 is 4 marks)

2 Compare two supplied situations. At inlet P, a sand ridge extends from one side of the mouth and ends in open water; a strong river current keeps the remaining channel clear. At bay Q, a ridge joins the two headlands and encloses water; sediment supply was abundant and cross-mouth currents were weak. Identify each landform and explain why only Q became a complete barrier.

(Total for Question 2 is 4 marks)

3 Describe how traction and saltation move beach sediment.

(Total for Question 3 is 2 marks)

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Mark scheme · 3.8 Coastal Transportation, Deposition and Landforms: 10-minute Pack

Question 1

Eastward longshore drift, consistent with north-east swash and southward backwash. **B1**

The drift supplies sand and shingle to the bend where the shore turns north. **B1**

Lower energy beyond the bend causes sediment deposition. **B1**

Continued deposition builds a ridge extending east into the inlet, attached to the land at one end. **B1**

Answer: Swash carries sediment north-east and backwash returns south, so longshore drift is eastwards. Sediment reaches the coastline bend and enters lower-energy water. It is deposited beyond the bend and accumulates as an eastward-growing ridge attached to the land at its western end.

Question 2

P is a spit, attached to land at only one end. **B1**

Q is a bar, joining land at both ends across the bay mouth. **B1**

At P the strong river current keeps the channel open by carrying sediment away or preventing accumulation. **B1**

At Q continued supply and weak currents allow deposition to complete the barrier. **B1**

Answer: P is a spit and Q is a bar. The river current at P removes sediment or prevents it accumulating across the channel. At Q, abundant sediment and weak currents allowed a ridge to join both sides and close the bay mouth.

Question 3

Traction: particles roll or slide along the bed. **B1**

Saltation: particles bounce or hop along the bed. **B1**

Answer: Traction rolls larger particles along the bed. Saltation moves smaller particles in short hops along the bed.

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