3.7 Coastal Processes and Erosional Landforms: 10-minute Pack

AQA 8035 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Rainwater containing dissolved carbon dioxide reaches a limestone cliff. Explain how chemical weathering can widen a crack in this cliff.

(Total for Question 1 is 2 marks)

2 Two angular pebbles repeatedly collide in breaking waves. Explain how attrition changes the pebbles.

(Total for Question 2 is 2 marks)

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3 Waves strike an open joint in a cliff. Explain how hydraulic power can enlarge the joint.

(Total for Question 3 is 3 marks)

4 Resource 3: invented cliff observations. A: blocks descend vertically from a steep, jointed face. B: a coherent slab moves down a straight bedding plane inclined towards the sea. C: a saturated mass rotates down a curved slip surface and its top tilts backwards. Name the type of mass movement at A, B and C.

(Total for Question 4 is 3 marks)

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Mark scheme · 3.7 Coastal Processes and Erosional Landforms: 10-minute Pack

Question 1

Dissolved carbon dioxide forms a weak acid in rainwater. **B1**

Acid reacts with or dissolves calcium carbonate in limestone, widening the crack; accept carbonation. **B1**

Answer: Dissolved carbon dioxide makes the rainwater weakly acidic. The acid reacts with and dissolves calcium carbonate in limestone, enlarging the crack.

Question 2

Collisions between pebbles chip or break fragments off. **B1**

Remaining pebbles become smaller and/or more rounded; do not require both. **B1**

Answer: Collisions chip fragments off the pebbles. They become smaller and their sharp corners become more rounded.

Question 3

Waves force water into the joint; accept compression of trapped air. **B1**

Pressure is exerted on the walls of the joint. **B1**

Repeated pressure changes weaken or detach rock, enlarging the joint. **B1**

Answer: Waves force water into the joint and compress trapped air. This creates pressure on the joint walls. Repeated pressure changes loosen rock and widen the joint.

Question 4

A: rock fall. **B1**

B: sliding; accept landslide if clearly a slide on a plane. **B1**

C: slumping or rotational slip. **B1**

Answer: A: rock fall. B: sliding. C: slumping (rotational slip).

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