3.7 Coastal Processes and Erosional Landforms: Test Pack

AQA 8035 · Calculator allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 State what wave height measures.

(Total for Question 1 is 1 mark)

2 Resource 1: invented wave observations. Wave group P has low, gently sloping waves, a strong swash and a weak backwash. Wave group Q has high, steep waves, a weak swash and a strong backwash. Identify the constructive group and the destructive group.

(Total for Question 2 is 2 marks)

3 A coastal rock face has water-filled cracks. Its temperature repeatedly rises above and falls below 0 degrees C. Explain how mechanical weathering can loosen pieces of rock.

(Total for Question 3 is 2 marks)

© Revision Library | revisionlibrary.co.uk

4 Resource 2: invented wave count. An observer counts 54 waves passing a fixed point during exactly 6 minutes. Calculate the mean number of waves per minute. Show your working and give the unit. Then state why frequency alone is insufficient to classify these waves as constructive or destructive.

(Total for Question 4 is 3 marks)

---

5 A clay-rich cliff becomes saturated after prolonged rain. Waves have also removed material from its foot. Explain why rotational slumping becomes more likely.

(Total for Question 5 is 3 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 3.7 Coastal Processes and Erosional Landforms: Test Pack

Question 1

The vertical distance from a wave trough to its crest; accept an equivalent definition. **B1**

Answer: The vertical distance between the trough and the crest of a wave.

Question 2

P identified as constructive. **B1**

Q identified as destructive. **B1**

Answer: P is constructive; Q is destructive.

Question 3

Water freezes and expands, putting pressure on the sides of cracks. **B1**

Repeated cycles widen the cracks and eventually loosen or break off rock. **B1**

Answer: Water freezes and expands in the cracks, exerting pressure. Repeated freezing and thawing widens cracks until pieces break off.

Question 4

Divide 54 waves by 6 minutes. **M1**

9 waves per minute, with unit. **A1**

Identify another needed characteristic, such as wave height, steepness or relative swash/backwash strength. **B1**

Answer: 54 / 6 = 9 waves per minute. Wave height, steepness or the relative strength of swash and backwash is also needed.

Question 5

Saturation adds water and increases the mass or weight of the material. **B1**

Water reduces friction or shear strength, making the material less stable. **B1**

Undercutting removes support so gravity can move material down a curved slip surface; accept the linked loss-of-support explanation without the technical term. **B1**

Answer: Saturation increases the mass and weight of the cliff material. Water can reduce friction or shear strength along a slip surface. Removal of support at the foot allows gravity to rotate the weakened material down a curved surface.

© Revision Library | revisionlibrary.co.uk