

Finn's Coastal Adventures: Understanding Erosion

Learning objective: To identify and explain the physical processes of coastal erosion and how they shape the British coastline.

Read the passage carefully, then answer the questions below in full sentences.

Finn the dolphin loves exploring the jagged edges where the ocean meets the land. Along the British coastline, the sea is constantly busy. One of the most powerful processes is erosion, which slowly changes the shape of the shore. Waves act like a natural sculptor, using hydraulic action to force air into cracks in the cliffs, causing them to weaken and eventually shatter. Another method is abrasion, where the waves pick up sand and pebbles, throwing them against the cliff face like sandpaper to wear it away.

Over many years, these forces create dramatic features such as arches and sea stacks. Once the rock is broken down, the ocean carries the tiny pieces of sediment away and moves them along the shore. Eventually, the water slows down, and this material is dropped off in a process called deposition. This creates beautiful sandy beaches for us to enjoy. While the coast looks permanent, it is actually a landscape in constant motion, shaped by the tireless energy of the tides and the patient work of the sea.

Word bank: erosion · coastline · sediment · headland · hydraulic action · abrasion · deposition

1. According to the text, what are two specific ways that waves erode the cliff face? (2 marks)

2. What does the process of 'deposition' create along the coast? (1 mark)

3. Why does the author describe the waves as a 'natural sculptor'? (2 marks)

4. Based on the text, why might the shape of a coastline look different in fifty years' time? (2 marks)

5. Do you think the constant changing of the coastline is a positive or negative thing? Give a reason for your answer. (3 marks)

Draw: Draw a diagram of a coastline showing a sea arch or a sea stack, and label the areas where you think erosion is happening.



Extension challenge: Research a famous coastal landmark in the UK, such as Durdle Door or the White Cliffs of Dover. Write a short paragraph explaining how you think erosion has affected its appearance over time.