Why Cliffs Collapse and Beaches Disappear

KS3 Ages 11-14 ⏰ 3 min read

What Happens to Cliffs and Beaches?

If you visit a beach or cliff every year, you might notice it looks different. A cliff that was solid rock might have broken away. A beach full of golden sand might have shrunk. This isn't magic—it's **erosion**, a natural process where land is slowly worn away by water, wind, and weather.

Think of it like a sugar cube slowly dissolving in water. The cube doesn't disappear all at once, but day after day, tiny pieces break off until it's gone.

How Water Wears Away Rock

Water is the biggest culprit. Waves crashing against cliffs are incredibly powerful. Each wave hits the rock, finding tiny cracks and pushing water inside them. When waves pull back, they suck out bits of broken rock. Over **months and years**, these countless collisions wear away huge chunks of cliff.

Rain also plays a part. When rainwater seeps into cracks in the cliff, it can freeze in winter. When water freezes, it expands—like when you fill an ice cube tray too full. This expansion pushes the rock apart from the inside, making cracks bigger and bigger until pieces tumble down.

Think of it like bending a paperclip back and forth. Each bend weakens the metal a little, until it finally snaps.

Where Do Beaches Go?

Beaches are made of sand and pebbles worn down from cliffs and rocks by the sea. When cliffs erode, they create new beach material. But waves also carry sand away from beaches out to sea. If sand disappears faster than it's replaced, the beach gets smaller and smaller.

Storms speed this up dramatically. A single powerful storm can remove more sand in hours than gentle waves remove in months.

Why Should We Care?

Erosion is natural, but it affects people. Homes and villages built on cliffs can become unsafe. People lose their property. Some historic places disappear forever. Scientists study erosion to help protect coastal communities and understand how our planet is changing.