How Wind and Water Wear Away Rocks

KS3 Ages 11-14 ⏰ 3 min read

What Is Erosion?

Erosion is the process where wind and water wear away rocks and soil over a very long time. It happens slowly, but eventually rocks that seem hard and permanent can be broken down into tiny pieces. This is one of the most important ways that Earth's landscape changes shape.

Think of it like rubbing a pencil eraser against paper over and over. Each rub removes a tiny bit, but after many rubs, you can see a real difference. That's how wind and water work on rocks.

How Water Wears Away Rocks

Water erosion happens in several ways. When rivers flow over rocks, the moving water carries tiny bits of sand and gravel that act like sandpaper, rubbing the rocks smooth. **Waves** crashing on beaches do the same thing, which is why beach rocks are so smooth and round.

Water can also get into cracks in rocks. When water freezes in winter, it expands and pushes the rock apart. This happens over many years, and eventually the rock breaks into smaller pieces. Rain also dissolves certain types of rock, like limestone, which is why you see interesting cave systems in mountainous areas.

Think of it like a tiny water droplet acting as a hammer that keeps hitting the rock, very slowly, for thousands of years. One drop does nothing, but millions of drops create huge changes.

How Wind Wears Away Rocks

Wind erosion works by carrying sand and dust particles that bump into rocks like tiny bullets. In deserts and on cliffs, strong winds can shape rocks into unusual forms over long periods. You might see rocks that look like mushrooms or arches—these were carved by wind erosion.

Wind is especially powerful in places with little vegetation to protect the soil, such as deserts and coastal areas. The sand and rocks it carries can scratch and polish other rocks, slowly changing their shape and size.

Why Does This Matter?

Erosion shapes our world. It creates **canyons**, **beaches**, and **valleys**. The Grand Canyon is a perfect example—millions of years of river erosion cut deep into the landscape. Without erosion, Earth would look completely different, and our landscapes would never change.