Why is the ocean salty?

KS2 KS3 Ages 7-14 ⏰ 2 min read

Every litre of seawater contains about 35 grams of **salt** — roughly seven teaspoons worth. That's enough to make your mouth pucker if you accidentally swallow some while swimming. But where does all this salt actually come from?

The Great Rock Robbery

Rain might seem innocent, but it's actually a gentle thief. When rainwater falls, it picks up tiny amounts of carbon dioxide from the air, making it slightly acidic — like a very weak fizzy drink. This acidic water then flows over rocks and slowly dissolves minerals, including various types of salt.

Rivers carry these dissolved minerals downstream to the ocean, where they stay put. Unlike fresh water, which evaporates back into clouds, salt doesn't evaporate. It just keeps accumulating, year after year, century after century.

Think of the ocean like a giant bathtub that never gets emptied. Every day, someone pours in a tiny bit of salty water, but only the plain water evaporates away. After doing this for billions of years, you'd end up with quite a salty bath!

Underwater Salt Factories

Rivers aren't the only salt suppliers. Deep beneath the ocean, **hydrothermal vents** act like underwater geysers, spewing out hot, mineral-rich water. These vents dissolve salt directly from the ocean floor and pump it into the surrounding water.

Volcanic activity also contributes, releasing minerals that eventually become salt. Even underwater landslides expose new rock surfaces to the ocean's dissolving power.

The Ancient Recipe

The ocean has been collecting salt for roughly 3.8 billion years. Early on, it was much less salty than today, but the recipe has been perfecting itself ever since. Interestingly, the saltiness has remained fairly stable for millions of years because the ocean has reached a kind of balance — new salt comes in at roughly the same rate that salt gets removed through various geological processes.

Different seas have different salt levels too. The Dead Sea is so salty you can float on it like a cork, while the Baltic Sea is much less salty because it receives lots of fresh water from rivers and has limited connection to saltier oceans.

So next time you taste seawater, remember you're sampling a recipe that's been brewing since long before dinosaurs existed — a liquid time capsule of every mountain range that ever weathered away.